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EDITORIAL.

THE late decision by the British High Court of Chancery, through Vice-Chancellor Sir James Bacon, in the suit of *Von Heyden vs. Max Neustadt & Co.*, is of special interest just now, both to pharmacists and to physicians, on account of the ethical questions which may arise as to the propriety of introducing certain preparations or products into the pharmacopœia. In order to place our readers *au fait* regarding the matter under consideration, we shall give a brief outline of the cause, progress, and end of the suit. Prof. Hermann Kolbe, of the University of Leipzig, about the year 1860 announced in his text-book of organic chemistry that salicylic acid could be prepared artificially by passing carbonic acid gas through boiling carbolic acid while metallic sodium was being dissolved in it. No further practical use was made of this announcement until Prof. Kolbe, in conjunction with Lautermann, in 1874, found that the acid may be prepared more simply by passing carbonic acid gas through a heated and previously dried mixture of carbolic acid and caustic soda. This modification of the previous process (which in reality is but trifling, but was made the *main feature* on which the patent was demanded), was immediately patented by the inventors, who had already discovered that salicylic acid is a most energetic antiseptic, and was likely to be used in the arts and in medicine in large quantities. The right to manufacture salicylic acid by their process was, by the inventors, assigned to Dr. Von Heyden of Dresden, and a branch factory was established in *this* country under the same patent, taken out at Washington. There were, however, some chemical manufacturers who did not believe that Prof. Kolbe's patent would stand rigid legal scrutiny, owing to his having published many years previously what they considersd to be the essential features of the process; hence, wishing to share in the profits, at least *one* large firm (Chemische Fabrik auf Aktien, late E. Schering, of Berlin), undertook the manufacture of the acid without making arrangements with Prof. Kolbe, or rather his assignee, Dr. von Heyden. In consequence of this, the latter brought suit against the former, and after a protracted trial, and the hearing of the testimony of many prominent experts, the suit was decided in favor of Prof. Kolbe and Dr. von Heyden, and, of course, the Berlin firm had to pay damages and royalty to the inventors. Not long ago, the well-known manufacturer, E. Merck, of Darmstadt, took out an English patent, claiming that his own specification covered more ground than the one previously issued to v. Heyden, and on the strength of it appointed Max Neustadt & Co., of London, as his agents. Prof. Kolbe, however, or rather Dr. von Heyden, considering this an infringement of their patent rights, brought suit against Max Neustadt & Co., which was argued with about the same arguments pro and con as the previous suit in Germany, and which resulted quite lately in the decision embodying the following points: 1st. The monopoly of Dr. von Heyden to manufacture and sell salicylic acid is recognized. 2d. The defendants, Max Neustadt & Co., are restrained from selling it, or from using Prof. Kolbe's invention, or from parting with the possession, otherwise than to the plaintiff, of any salicylic acid manufactured by them and in their possession. 3d. The defendants are also ordered to account for all profits derived by them from the sale of the acid manufactured by them; and to pay to the plaintiff the amount of such profits, and the cost of the action.

This may be presumed to settle the matter definitely, and to deter any one else hereafter from attempting to make salicylic acid by Prof. Kolbe's process without paying royalty.

The question now arises, and has already now and then been mooted, whether this product, being subject to a patent, should be recognized in an official pharmacopœia, or, under the ethics of the American Medical Association, prescribed by physicians? In order to decide this question properly, it is necessary to trace back the history of salicylic acid. A few years after its discovery in 1837, Cahours (1843) found that it

was a principal constituent of oil of wintergreen, which is, therefore, its natural scource, and from which it may be prepared by any one who chooses to do so, without hinderance.* Neither the *name* nor the *product*, therefore, are proprietary, but, on the contrary, open and free to the use of all mankind. It is only a *special process*, discovered by means of the advances in modern chemistry, and by which the acid may be prepared artificially, which is patented. Salicylic acid, no matter whether obtained naturally or artificially, probably has the same physical and chemical properties, and also the same medicinal effect. Nobody is compelled so use the patented variety, and may suit his own taste in the matter. Further, the crude salicylic acid, as delivered by the manufacturer, may be recognized as nothing more than a crude product requiring purification, just as crude soda made by Leblanc's process, and purchased from the proprietors of Leblanc's patent, may be further manipulated and purified in second hands. There is, therefore, a great difference between the status of salicylic acid, and many other patented substances, where the *name* is principally covered by the patent. In our opinion, therefore, there can be no objection made to the reception of salicylic acid into the pharmacopœia on any grounds.

Printing on Glass.—The following method of printing on glass may possibly be of service in many ways instead of the one of etching or grinding, now so frequently resorted to. The process, patented in Germany by Mr. V. Koeppe, consists, first, in obtaining a positive plate consisting of plaster of Paris, type-metal, cement, kaoline, etc., from a wood-cut or electrotype. From the positive plate thus formed a negative is obtained, the preparation of which is as follows: 50 parts of good glue are soaked in 40 parts of water, 50 parts of glycerin are then added and the mixture is exposed to gentle heat until the glue is dissolved. One part of olive oil is next added, the mixture is again heated to a boiling point, and now a cast may be taken of the positive plate. On cooling, the shape is retained, but it remains very flexible. It may now be attached to wooden plates or rollers, and is then ready for printing. By encasing the slender stem of the cast in a metal sheath, casts of single letters may be used as in the case of ordinary type. The colors are applied to the plates by means of rollers. The printing inks are composed of the desired shade of pigment, levigated with enough balsam of copaiba to form a paste of the consistence of butter and to this Venice turpentine and 50 per cent of semi-resinified oil of turpentine or lavender are added. Bronze powder may be appplied immediately after printing, and the piece is then to be baked in an oven.—*Gewerbe Zeitung*.

Poisonousness of Oxalic Acid.—(E. PFEIFFER.) Uppmann has stated (*Allg. Med. Centralztg.*, 1877) that the notion that oxalic acid is poisonous is erroneous, since he found that doses of 1 gram of oxalic acid were insufficient to kill a dog. The author denies Uppmann's conclusions, for seeing that a large quantity of calcium phosphate is present in the stomach of a dog, it is most probable that the oxalic acid is converted into insoluble calcium oxalate by double decomposition, and recommends that the experiments be made on rabbits.—*Arch. d. Pharm.* (3) 13, 544.

* See the article on p. 207.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

The Mahwah Tree.

(BASSIA LATIFOLIA, *Roxb.**)

THE value of this tree deserves to be much more widely known than it is at present. Every part of the tree is of use to mankind, and if planted largely in those countries where it would grow, would do much to alleviate the horrors of famine, such as have recently occurred in China, India, Morocco, and other arid localities in the tropics.

The tree is a native of Bengal, but is abundant in all parts of central India, from Guzerat to Behar, and is cultivated in other parts of India, particularly in the Punjab, in Oudh (where it is planted near the villages in groves), and in the mountains of the Circars. It grows to a height of 60 feet, the trunk being often 6 or 7 feet in circumference. The timber is hard and strong, close and even-grained, and is used for the wheels of carriages, railway sleepers, etc. A resinous gum exudes from the bark in considerable quantities, on making incisions.

The flowers are produced in enormous quantities in March and April, after the old leaves have fallen and before the new leaves have appeared; the crop rarely fails. The fleshy flowers fall off and cover the ground beneath the trees, and are gathered eagerly by the natives every morning during the flowering season; a single tree yields from 200 to 400 lbs. weight of flowers. These flowers are stored as a staple article of food by the Bheels and other tribes, and so valuable do they consider these trees, that in time of war the threat of cutting them down generally reduces them to submission when unruly.

* The text is based upon the following authorities: Roxburgh, Flora Ind. (2) 411; J. L. Stewart, Punjab Plants (Lahore), p. 135; U. Ch. Dutt, Materia Med. of the Hindus (Calcutta), p. 188; Asiatic Researches, I., 300; Voigt, Hort. Suburb. Calcuttensis (1845), p. 526; Pharmacopœia of India (1868), p. 130; Malcolm's Central India, II., 47; Balfour, Encyclopædia of India, vol. 1; Susruta (ed Calc.) frequently; Weber's Indische Studien, 5, 308; Thomas Christy, New Commercial Plants, No. 2.

The native names of the tree are: *Sanskrit:* madhûka, madhuka, madhudruma ("honey-tree"); *Bengali:* mohwa or mohúa, mahula; *Mahratti:* moho; *Tamil:* illúpa; *Telugu:* epi, ippa, ippechettu; *Hindi and Hindustani:* mahúa or mahwâ. It is commonly pronounced mahú-a.

N.B.—The illustration represents *Bassia butyracea* Roxb. (native name, *phulwara*). This species of Bassia is the principal source of the so-called Mahwah-butter, or fatty oil extracted from the kernels. The Mahwah tree yields a much smaller quantity. *Bassia butyracea* is scarcely to be distinguished from *B. latifolia*, except that in the latter the peduncles all arise from *one* point, mostly from the end of the generally naked branchlets. The anatomical details shown in the illustration represent: on the left, the arrangement of the anthers on the inside and upper part of the tube of the corolla; and the long, tapering style; on the right, the fruit, whole and in section.

The flowers, after gathering, are dried by a few days' exposure to the sun. When dry, they have somewhat the odor and appearance of Sultana raisins. Eaten raw or dressed, they form a wholesome, savory, and nourishing food, particularly for the natives. Lately examined by a French chemist, M. Petit, they were found to contain half their weight of sugar, and are therefore very nourishing.

In a paper recently read before the Linnæan Society by Mr. Lockwood, that gentleman stated that wild animals of many kinds troop eagerly to the Mahwah trees during the season to feed on the flowers. He was therefore led to experiment upon domestic animals, and it was found that the flesh of pigs fed upon Mahwah flowers in this country was much improved and acquired a delicate flavor. The animals so fed rapidly came into condition.

As might be expected, from the amount of sugar contained in the flowers, they yield when fermented a large quantity of spirit, as much as 6.16 gallons of proof spirit per cwt. having been obtained from them. The flavor of the spirit, roughly distilled, is very similar to that of Irish whiskey, but when carefully rectified, it can be obtained exceedingly pure and free from flavor. This spirit is manufactured to a great extent in India, the Government duty on the spirits distilled (chiefly from this flower) in the island of Karanja, opposite Bombay, amounting to from £60,000 to £80,000 per annum. In Guzerat and Rajpootana every village has its spirit shop for the sale of the distilled liquor from the flowers, and the liquor is sold at an astonishingly low rate: about one pint being obtainable for 1 to 3 pence (in 1803 for ½*d.*). It has been found that when placed in an oak-wood cask it takes a yellow tone of color, and is then preferred to Irish whiskey of high quality. The analysis shows it to be a most wholesome spirit.

The tree thrives in poor stony ground, and might therefore be cultivated on land not available for other crops. So regular is the yield of flowers, that it is said a bad Mahwah harvest has never been known in India.

The flowers when dried will keep for almost any length of time, and do not appear to be attacked by insects.

From the kernels of the fruit a thick concrete oil is extracted by the natives; this is an article of common consumption in India, and is often seen in the London market under the name of Mowha, or Mahwa, or Yallah Oil. The cost of the oil on the spot where it is extracted is about 3 rupees per maund (6 shillings per 25 lbs.). By the native process, the seeds yield about one-half their weight of oil. It is used for burning in lamps and soap-making; but, as it resembles butter very much, particularly when fresh, it is often employed mixed with it or substituted for it for cooking purposes. It is, however, apt to get rancid soon, and is then only fit for burning.

The oil, and indeed every part of the tree, has been employed medicinally by the Hindu physicians. The flowers were used, in infusion, combined with aromatics as a cooling febrile drink. The oil, in particular, is frequently mentioned in Hindu medical works, and has even at the present day a considerable reputation as an application to wounds and to herpetic eruptions of the skin. The residue or oil-cake (*illúpai púnak*, Tamil), which is left after the expression of the oil, is used as an emetic. Some cases of poisoning by stramonium, in which it was so employed, are given by Dr. J. Shortt*; it appears to act efficiently in this character. The smoke arising from the burning of the oil-cake, after expression of the oil, is said to be poisonous to rats, etc.

The Mahwah tree, then, affords a means of obtaining an almost unlimited supply of food, both for man and beast, a food which will keep a great length of time in any natural temperature, and which requires no trouble to procure, and no outlay in cultivation. The tree readily probagates itself by seed which, in India, is usually self-sown.

Nitrite of Amyl in Sea-Sickness.

Dr. U. A. Dingle writes to *The Lancet* of May 3d: "I have now made several long sea voyages, and have very little faith left in any of the so-called remedies. I have tried chloral hydrate, morphia, ammonia, spirits of chloroform, and many other drugs, in some instances with temporary relief; in the majority of cases they have utterly failed, and in many others increased the feeling of nausea. Champagne, champagne and soda-water, and porter are, I think, no better. At the present moment I cannot call to mind how or where I first heard of the nitrite of amyl being used; at any rate I took a supply on my last voyage, determined to give it a trial upon the first opportunity; but I must confess I was rather sceptical about its virtues. On the outward voyage to Bombay we had fairly good weather, and no bad case of sickness; but on the way home I had every opportunity of giving it a thorough trial. In every case in which I administered it the relief was very marked, and in some cases it acted like magic, the patient assuring me that he felt perfectly well ten minutes after the inhalation. On one day I gave it in at least a dozen cases. The dose was three drops upon a handkerchief or piece of lint. I found that the effects passed off in two or three hours, so that it was sometimes necessary to repeat the dose. Patients did not object to the smell of it; many, in fact, liked it. Perhaps the cases least benefited by it were those of pregnant women, but these obtained great relief. I may also say that in no single instance was the administration followed by any ill-effects."

* *Madras Quart. Med. Journ.*, IV., p. 286.

TINCTURE OF KINO.

BY R. ROTHER.

THE tendency which many tinctures, fluid extracts, and other solutions have to deposit a bulky sediment; of ointments to rancidify, and even of syrups to ferment and otherwise change, cannot compare in point of annoyance with the disposition of tincture of kino to gelatinize. It would be idle to relate the numerous inefficient devices that have been resorted to in order to circumvent this change. The writer once entertained the theory that the cause of the transformation resides in a septic movement transmitted by a soluble septase originally present in the gum, or imparted to it by some extraneous organism. To exclude this or nullify its action, the writer proposed the application of the strongest alcohol, and also by increasing the material strength of the tincture. Owing to the fact that the different varieties of kino do not possess the instability in a like degree, the writer for a time believed to have found the true remedy. But on a latter occasion, a concentrated tincture (1 in 4) solidified with surprising rapidity, and thereby demonstrated that neither strong alcohol nor a high degree of concentration can obviate the change. The writer then thought that to light might, perhaps, be ascribed the cause of the phenomenon, especially since a dark bottle partially filled with officinal tincture, whilst remaining in a closet protected from light, had for a long time retained its contents intact, but on being removed to another receptacle and exposed to diffused daylight, the tincture speedily gelatinized. It was, however, proposed to test this thoroughly, and in order to ascertain what possible influence the atmosphere might also exert, the writer on the 12th day of January, 1878, prepared eight fluid ounces of officinal tincture of kino, by maceration and filtration through starch. Four fluid ounces of this was poured into a pint bottle, and set away, exposed to diffused light, this was marked No. 1. No. 2 was a half-ounce vial filled with the tincture and tightly corked. No. 3 was a two-ounce vial, loosely corked, containing one fluid ounce of the tincture. No. 4 was the same as No. 3, with the addition of one grain of benzoic acid. No. 5 was a two-ounce vial containing half a fluid ounce of the tincture and half a fluid ounce of water. No. 6 was a duplicate of No. 3, kept in a dark closet, preserved from light. Nos. 2, 3, 4, and 5 were so situated that, during part of every day when the sun was shining, they were exposed to the direct rays.

On the 23d of May, 1878, the contents of No. 1, which had in the mean time been occasionally shaken and given fresh air, showed signs of becoming viscid. To find what effect ammonia would have on it at this stage, half a fluid ounce was mixed with three drops of aqua ammoniæ. It gelatinized instantly. The remaining tincture of No. 1 now gradually thickened, and by the end of July had set to a firm jelly.

At the 10th of April, 1879, no change had yet occurred in No. 2. No. 3 was barely fluid. No. 4 was a thick jelly. No. 5 was quite fluid, showing a slight tendency to viscidness. No. 6 was a thick jelly.

In the course of observing these indications, it was decided, on the 5th of February, 1879, to make a second experiment, and to this end 8 fluid ounces of tincture of kino was prepared by maceration; double the officinal strength in kino, but with a menstruum composed of one part by measure of strong alcohol and three parts water.

One-half of this, marked No. 7, was placed into a twelve-ounce wide-mouthed bottle, loosely stopped, and so disposed of as to stand, at intervals, in direct sunlight. The other half, marked No. 8, was diluted with an equal measure of its menstruum, and stored away in a pint bottle under similar conditions to No. 7.

Both No. 7 and 8 were frequently shaken and exposed to fresh air by removing the stoppers of the bottles. At the 18th of May, 1879, No. 7, which had for some time back been thickening by imperceptible degrees, became firmly gelatinous. But No. 8, at the present writing, shows no signs of viscid tendency. No. 2 has also remained in statu quo. No. 5 has now become quite syrupy, and all the others have become more firmly solid.

Now, on reviewing these results, it appears that No. 2, although having been freely submitted to the action of light, but securely shielded from the access of air, has remained in prime condition. Nos. 1, 3, 4, 6, and 7 prove that the contact of air has caused their alteration. No. 4 indicates that benzoic acid hastens the change. No. 6 gives evidence that air without light is as active as with it, and, in conjunction with No. 2, confirms the non-intervention of light. Nos. 5 and 8 plainly point out that a tincture weak both in kino and alcohol is the most permanent in the presence of air. No. 7, together with the strong tincture first cited (1 in 4), demonstrate that a concentrated tincture of kino, especially when prepared with a strongly alcoholic menstruum, is the most unstable form.

It appears, therefore, that the gelatinous condition is due to an oxidation product. The ramifying propensity of this insoluble substance causes it to pervade the liquid with invisible filaments and thus produce the impression of homogeneity. On the appearance, however, of the slightest trace of viscidity, the addition of water precipitates the gelatinous body in purplish flakes, which rapidly subside, leaving a red supernatant solution.

The abundant supply of air in the large bottles has promoted the transformation at a higher rate, as will be seen from the experiments, the tinctures in the smaller vials requiring a propor-

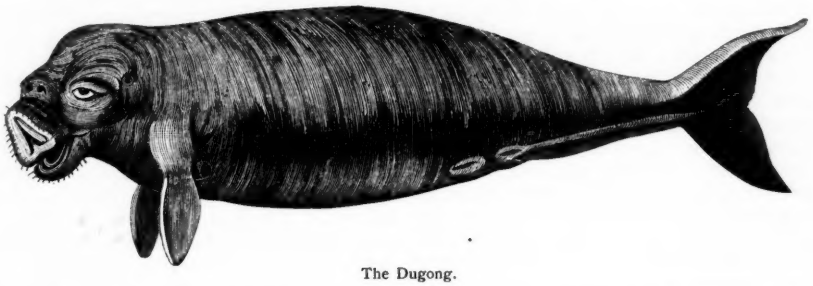
tionately longer time to undergo decomposition. When the tincture is yet homogeneous, the liquid adhering to the walls of the vessels, after agitation, all runs down again, but after the alteration has begun, much of the liquid permanently adheres, the insoluble matter, owing to its uneven contraction, giving the residue after drying a peculiar veined appearance. The partially gelatinized tinctures cannot be filtered, the viscid body retaining the liquid portion. The semi-congealed fluid, however, on drying, yields a compact residue, from which alcohol or water readily removes the soluble parts. In fact, it seems as though much of the kino of the market is the residue of a partially gelatinized juice, and it is probable that the instability of some tinctures is partly chargeable to this altered gum. The success that is claimed to attend the officinal method of preparing the tincture, that is, the percolation through sand, may be accounted for by the fact that this very faulty operation sacrifices a large proportion of the gum by agglutination amidst the sand, and thus yielding a weak percolate, such a solution having, according to the writer's experiments, elements of more stability. A trial of oxidation with potassium permanganate was made, but since this agent in contact with organic matter always gives a precipitate of manganese dioxide, its effect in this instance was not easily judged. Still a weak solution of permanganate acidulated with acetic acid poured into the tincture produced a precipitate which, although it may have been contaminated with dioxide, yet had great resemblance to the curdy, flesh-colored mass thrown down by water from the tincture in an advanced state of change. In conclusion, the expression for the sum of the foregoing results is, that tincture of kino is best prepared by maceration with a weak alcohol and then preserved in small vials, well filled and securely stopped, so as to exclude the action of the air.

Deodorized Iodoform.—The editor of the *Louisville Medical News* says he has tried the following mixture and finds that the objectionable odor of iodoform is disguised thereby: Iodoform, 2.0; Vaseline, 30.0; Oil of peppermint, six drops. Rub together to form an ointment.

The Dugong.*

THE eastern representative of the family of Sirenia is the Dugong (*Halicore Indicus*, Desm.; *Trichechus Dugong*, Gmel.; *H. Australis*, Owen and Gray; *Halicore Dugong*, F. Cuvier; *Dugungus Indicus*, Less and Hamilton). It is distributed over the Indian Ocean, common in shoals on the coasts of Ceylon, Aripo, and the Bay of Calpentyn to Adam's Bridge. It is also found along the eastern coast of Australia from the Tweed to Cape York. The dugong is the principal of the herbivorous Cetacea, subsisting entirely on a species of sea-grass which grows in those shallow waters, which are its regular feeding grounds.

Professor Owen remarks, "the whole of the internal structure in the herbivorous Cetacea differs as widely from that of the carnivorous Cetacea as do their habits; the amount of variation is as great as well could be in animals of the same class, existing in the same great deep. The junction of the dugongs and manatees with the true whales cannot, therefore, be admitted in a distribution of animals according to their organization. With much superficial resemblance, they have little real or organic resemblance to the walrus, which exhibits an extreme modification of the amphibious carnivorous type. I conclude, therefore, that the dugong and its congeners must either form a group apart, or be joined, as in the classification of M. de Blainville, with the Pachyderms, with which the herbivorous Cetacea have most affinity."



The Dugong.

The upper lip is very large and thick, and both are covered with a hard, horny substance, which aids the animal in tearing up the submarine weeds which are its food. The eyes are small, like most others of the whale tribe, and the ears very minute. They usually frequent the ocean inlets, where their food most abounds, browsing on them like an ox eating grass. In size these animals seldom exceed fourteen feet in length. The oil is obtained from the adipose matter of the cellular substance under the skin.

* From P. L. Simmonds: Animal Products; their Preparation, Commercial Uses, and Value. 8vo, Lond., 1877, p. 373.

it is free from any odor, and when well refined, is clear and limpid. At low temperature it nearly becomes thick and loses its fluidity. The dugong is an inhabitant of the Indian Ocean and is found principally amongst the islands of the Archipelago, and the northern coast of Australia. As far as we are aware, they are not met with south of Moreton Bay, and even there they are not by any means as numerous as in the bays and shallows farther north. In the waters of Wide, Hervey, and Rodds' Bays they are far more numerous. But their chief habitat is the tropics. There they may be found at all seasons of the year in almost incredible numbers, coming in and going out with the tide, just like huge mobs of cattle at a mustering at a large cattle-station. Dugongs being obliged to come to the surface to breathe, are rarely found in deep water, but usually in from two to four fathoms, where grow the grasses and weeds which are their sole food.

In length they vary from six to fifteen feet, the average being probably nine feet. The weight of an ordinary specimen is from four to six hundredweight, although we have heard of individuals weighing something like a ton, and producing no less than twenty gallons of purified oil. Directly behind their peculiar flippers are situated the mammæ, or breasts, which are not of very large proportions. The young are born singly, and are known as "calves." When killed and opened, a dugong is about the size and appearance of a bullock, except that the skin is thicker, the fat more like that of a pig, and that the tail part assumes the shape of that of a fish. The skeleton of one forwarded to Europe from Australia some years ago measured eleven feet in length.

The flesh is excellent, tasting more like beef than fish. Gumilla states that the flesh of those of the Orinoco, when roasted, has the flavor of pork and the taste of veal, and when salted makes excellent sea-store. The dugong is considered by the Malays as a royal fish, and the king is entitled to all that are taken. The flesh is highly prized, and considered by them as superior to that of buffalo or cow.

The dugong, or sea-hog, locally called "Mooda Hoora," is sometimes met with in shoals on the western coast of Ceylon. When captured, the flesh of this Cetacean sells there at half-a-crown for a small piece of less than a pound in weight. It is esteemed a great delicacy by the Mahometans, who naturally seek a compensation in this dish for the prohibition under which they suffer respecting the porcine type terrestrial.

Dugong bacon has become an article of sale at Maryborough, Queensland, and is described as being, when properly cured, a relishing article of diet, more especially for the breakfast table.

It is said to have the flavor of bacon with just an agreeable "bloater" twang added. Mr. E. Wilson states that he unconsciously ate it in salted rashers for breakfast without knowing the difference. The *Moreton Bay Press* (Queensland), states that the bone of the dugong or "yungan" (as the aborigines call it), in fineness and hardness of grain, specific gravity, and appearance, approaches nearly to the nature of ivory. It could be used as a substitute for that material for most of its purposes, and might be procured in considerable quantities for export.

The oil from the dugong has obtained a high reputation as a substitute in medicine for cod-liver oil.

Dr. Hobbs, the health officer of Moreton Bay, tells us (what the later experience of many others also confirms) that, "so sweet and palatable is the oil procured from the dugong, that in its pure state it may be taken without disagreeing with the most sensitive stomach, and also used in a variety of ways in the process of cooking; so that the potent restorative remedy may be taken as food, and many ounces consumed almost imperceptibly every day, thus furnishing the system with the requisite amount of carbon for its daily oxidation.

The Queensland dugong fishery, situated in Hervey's Bay, near Maryborough, is owned by Mr. Y. L. Ching, a gentleman who has gone into the business in an extended and systematic manner. The dugong is taken either with nets or by harpooning. Three or more boats are sent out daily, being manned by aboriginal crews (all of whom are picked men), whose sighting capabilities are very superior, far surpassing the whites at this sort of work. In this manner sometimes as many as six dugongs are taken a day. When one has been harpooned, it is immediately brought home and cut up. The oil is then extracted, and subjected to a variety of complicated processes, finally undergoing a chemical clarification, which renders it fit for the European and American markets, where, owing to its medicinal properties, there is a large demand for it.*

A large dugong weighs from 10 to 12 cwt., and yields from 6 to 14 gallons of oil. Sometimes, indeed, as much as 18 gallons are obtained from a good animal.

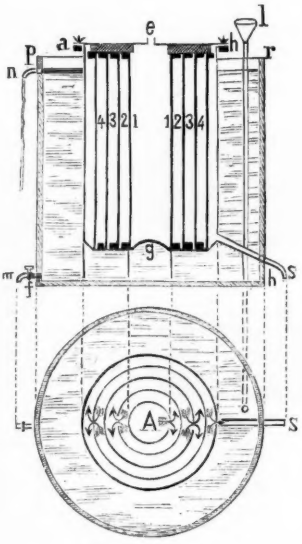
A New Condenser.

Mr. Antonio Borda y Balcells has constructed a new condenser, which is figured below both in vertical and in horizontal section. It consists of a tight metallic box or cylinder, *a h g*, about 18 inches high and 7 inches in diameter, the inner bottom of which is raised (at *g*), thereby producing an annular depression around this elevation. Into this depression 4 circular diaphragms are placed in equal distances. These diaphragms do not form a complete circle, but are made by bending a plate

* The demand here does not appear to us to be as large as the article deserves.—Ed. N. R.

of sheet-tin or other metal into a circle until the edges are about half an inch apart.

The distances of the diaphragms are regulated by annular rings, or better, projections on the upper and lower margins, causing them to be respectively 10, 8, 6, and 4 millimeters ($\frac{3}{8}$ to $\frac{1}{8}$ inch) apart. The diaphragms are placed with the lateral slit looking alternately to either side, so that the vapors permating them are compelled to pass through the whole system in the direction indicated by the arrows in the lower figure. The tube *s*, which enters the inner compartment about $\frac{3}{8}$ inch above its bottom, conveys the condensed liquid to the outside. Condensation is effected in the usual manner by supplying the outer vessel or hollow cylinder with a



Balcells' Condenser

constant stream of cold water, entering at *l* and passing out at *n*. The top of the inner condensing chamber consists of a flat circular disc, which is screwed down on the projecting shoulder at *h*, a washer being used to render it air-tight. The orifice *e* is connected with the still or retort.—*Boletin del Colegio de Farmacéuticos de Barcelona*, 1879, 134.

Grindelia Robusta in Rhus-Poisoning.

THE season will soon arrive when cases of Rhus-poisoning will demand the attention of physicians, and we will suggest that, in view of the reports (chiefly from California) of the specific effects of Grindelia robusta as a remedy, it will be well to provide themselves beforehand with a reliable fluid extract of the drug, and be prepared to try its effects.

THE PREPARATION OF GREEN IODIDE OF MERCURY.

BY J. U. LLOYD.

I HAVE prepared the green iodide of mercury both by the process of Wittstein and by that given in the U. S. Pharm., both of which have given me trouble and disappointment. I have therefore introduced a modification, which I have adhered to for several years past, with good results.

The U. S. Pharm. gives the following directions:

"Mix the mercury and iodine in a mortar, and having added half a fluid ounce of stronger alcohol, etc."

I think the above may be worded otherwise to better advantage. In almost every instance that has come to my notice, the inference drawn is that the mercury and iodine are to be mixed well together before the alcohol is added (which I doubt being advisable). This necessitates trituration, and as a result we have immediate chemical union between portions of the two elements, considerable increase of temperature, and if the quantities brought together are large, often violent chemical action, before the alcohol is added, and accompanied by the disengagement of a large amount of vapor of iodine, after which the residuum will be in hard masses, of a black and red mixture of colors, extremely difficult to pulverize and to thoroughly free from red iodide of mercury by the solvent action of acohol.

It might be supposed that, inasmuch as the officinal proportions of mercury and iodine are in favor of the former element, to which, in addition, we must add the iodine vaporized, the finished iodide should scarcely contain much red iodide. Yet beyond doubt it is freely formed.

To render the formula clearer and convey the meaning evidently intended, I will suggest something like the following:

"Place one-half a fluid ounce of alcohol into a cold mortar, and then add the mercury and iodine, etc."

In working large amounts, I use a *very cold* mortar, and twice the officinal amount of alcohol.

CINCINNATI, O., March 27, 1879.

GLYCERITE OF STARCH AND GLYCERITE OF TAR.

BY J. U. LLOYD.

Glycerite of Starch, Br. Pharm.—The present process of the British Pharmacopœia directs a heat of 240° F. This will not burst the starch granules. To accomplish this a heat of 284° is necessary. My process is to follow the formula of the Pharmacopœia, excepting that the heat *must be raised to* 285° F., and the solidifying substance continually removed from the lower portion with a spatula, until all appearance of starch has disappeared and the mixture is of even consistency. The present directions carefully fol-

lowed cannot make the article desired. Let the directions be:

Take of Starch, 1 oz.; Glycerin, 8 fl. oz. Rub them together until they are intimately mixed, then transfer the mixture to a porcelain dish, and apply a heat gradually raised to 285° F. (not to exceed 290° F.) stirring constantly until the starch particles are completely broken and a translucent jelly is formed.

Glycerite of Tar, U. S. Pharm.—I had made this article before the last U. S. Pharm. appeared, and endeavored at that time to change my process so as to conform to that of the Pharmacopœia I found, however, that the new process was faulty, and that the article was unsalable. I was compelled to return to my former process, which is given below.

The article is used altogether, I think, as a substitute for tar-ointment. The present officinal process produces a *liquid*, and the body of this is glycerin, which is a poor solvent for tar. Consequently the tar continually separates, rising to the surface as a scum. It is also too soft and cannot take the place of tar-ointment. The following process is adapted to a large or small scale, and turns out an unexceptionable product.*

Take of Glycerin, 8 fl. oz.; Tar, 1 fl. oz.; Starch, 1 oz. Proceed to prepare glycerite of starch as directed by the preceding formula. When the mixture has assumed the gelatinous consistence, allow it to cool to 150° F., then thoroughly incorporate the tar.

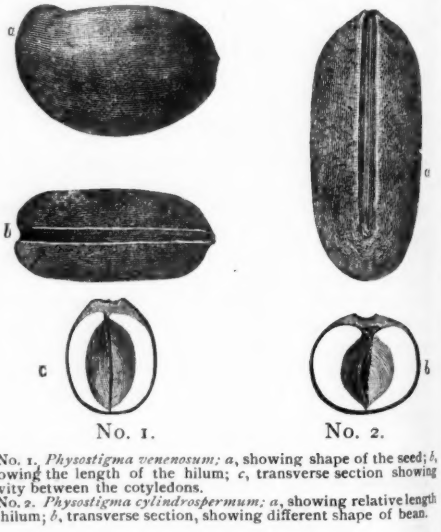
Practically this amounts to *mixing* glycerite of starch with tar; but I am of the opinion that the addition of the tar to the *hot* glycerite is better, as it seems to insure a more complete admixture, furnishing a preparation in which the tar is very finely divided and intimately incorporated.

CINCINNATI, O., March 14, 1879.

Note on Calabar Beans.

FOR some time past there have occurred among the Calabar beans of commerce some specimens which are longer and more cylindrical, and mostly of a redder tint than those generally met with. Only one species of this genus having been hitherto described, my attention was not further attracted by them until recently, when Mr. Carruthers, F.R.S., casually mentioned to me that in the Welwitsch collection, in the British Museum, he believed there was a second species of Calabar bean, which had been described in the 'Flora of Tropical Africa,'† under the name of *Mucuna cylindrosperma*, Welw. On examining these specimens I found them to be identical with the long cylindrical Calabar beans I had noticed in the drug of commerce. Fortunately pods of the ordinary Calabar bean, as well as of the cylindrical kind, were both to be seen in the Botanical Department of the British Museum, and leaves of the two plants in the Kew Herbarium. The pods of the two plants on comparison were evidently extremely similar, both having a smooth outer layer or epicarp marked with numerous oblique chinks or fissures, about half an inch long, a friable mesocarp, which easily decays and leaves only the veins distinctly visible, and a minutely tuberculated endocarp. The inside of the pod is lined with loose cellular tissue, which looks almost like a very thin layer of wool.

The leaves of the two plants are also very similar, being composed of three stalked leaflets of which the two lateral ones are unequal-sided, the side next the centre leaflet being the narrowest. The leaf presents a strong resemblance to the ordinary French bean, except that the leaflets are more cuspidate. The flowers of the



No. 1. No. 2.

No. 1. *Physostigma venenosum; a*, showing shape of the seed; *b*, showing the length of the hilum; *c*, transverse section showing cavity between the cotyledons.

No. 2. *Physostigma cylindrospermum; a*, showing relative length of hilum; *b*, transverse section, showing different shape of bean.

species bearing the cylindrical seeds have not been seen, and this fact, taken in conjunction with the similarity of the leaves of the whole group of the *Phaseoleæ*, probably led to the plant being placed in the genus *Mucuna*.

Welwitsch describes the plant as a climbing shrub, ascending to a considerable height, with long pendent branches, 30 or 40 feet long, hanging down from the trees which it ascends. It has smooth, herbaceous, shining, ternate leaves, sub-cylindrical pods, four to six inches long, attenuated both at base and apex, with the surface transversely marked with oblique cracks, and containing two or three or, more rarely, only one seed. The pods, which ripen in September, dehisce only some time after maturity.

* Mr. Lloyd has sent us a specimen, which fully bears out his remarks.—ED. N. R.

† Oliver's 'Flora of Tropical Africa,' vol. ii., pp. 186 and 191.

When it contains only one seed the pod is almost fusiform, when more than one it is slightly constricted between the seeds, in this respect resembling an ordinary French bean. He gives the native name as "maxima iâ muxito," and the habitat, in primeval forests near Sobado-Bango, Aquitamba, Mata irrgeni de Quisuculu and Golungo alto.

Indeed his description so closely tallies with that of the true Calabar bean, that were it not for the difference in the stipules—which in the *Mucuna cylindrosperma* are said to be reflexed and persistent, while in *Physostigma venenosum* they are stated to be deciduous—it would be impossible to distinguish between them. Until flowers and further specimens of the two plants are procurable, it would indeed seem somewhat doubtful whether the *Mucuna cylindrosperma* Welw. is more than a variety of *Physostigma venenosum* Balf. Until then, it should evidently be placed in the genus *Physostigma*, under the name of *P. cylindrospermum*. The question of identity is also one of some pharmaceutical interest, for the inquiry naturally arises, whether the beans differ in medicinal power.

It has been mentioned to me by Mons. A. Petit, of Paris, that he has found considerable variation in the yield of eserine from different samples of Calabar beans, and that he was puzzled to account for the fact. Knowing that eserine is easily decomposed by alkalies, with a reddish coloration, it occurred to me that a rough test of the presence of that alkaloid in the cylindrical beans might be obtained by the application of liquor potassæ. On touching the cotyledons with this alkali, I was surprised to find that, while the true beans gave a permanent pale-yellow tint, the cylindrical ones gave a deep almost orange color, ultimately turning to a greenish hue, with the same reagent, thus apparently indicating greater activity than the ordinary kind. Exactly the same reaction takes place with the cylindrical beans collected by Welwitsch and described in the 'Flora of Tropical Africa' under the name of *Mucuna cylindrosperma*. The actual yield of eserine in the two sorts of Calabar bean is now under investigation, and will form the subject of a future communication.

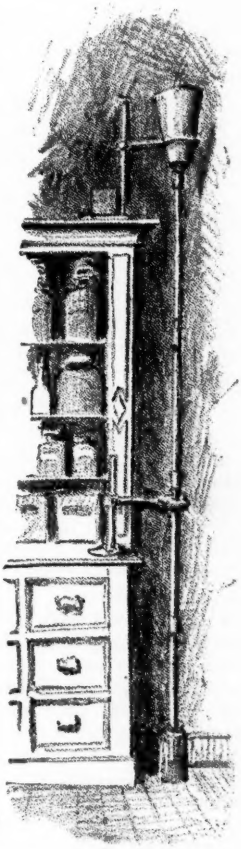
For practical purposes the seeds of *P. cylindrospermum* may be thus distinguished. The seeds are longer than those of the Calabar bean, nearly cylindrical, of a reddish-brown color, with few exceptions of a darker hue, and the hilum does not extend quite to the extremity of the bean at the end where the micropyle is visible, but forms there a slight projection, or when the projection is not marked, a portion of the bean about a quarter of an inch in length may be distinctly seen beyond it at that end.

In the Calabar bean the color is mostly very dark purplish-brown or nearly black. The hilum extends the whole length of the bean, so that neither end of it is visible when the hilum faces the eye, and fragments of the funiculus often remain attached as a whitish line to the edges of the hilum. The seed is also broadest in the middle and tapering towards the ends, and is somewhat flattened at the sides. The character is most easily seen by transverse section, No. 1, *c*. —E. M. Holmes, F.L.S., *in Pharm. Journal and Trans.*, May 10th.

SYRUPS BY PERCOLATION.

BY A. P. STOWS, JR.

I inclose a sketch showing an apparatus we use in making syrups by percolation. This may have been in use elsewhere, but not to my knowledge.



A percolator is placed upon the highest shelf in the store on a retort stand, in such a position that a glass-tube may extend from it nearly to the floor and empty into a vessel placed to receive its lower extremity.

The glass-tube is made up of pieces two or three feet in length, and $\frac{3}{16}$ to $\frac{1}{4}$ inch outside diameter, which are connected one with another by means of sections of India rubber-tubing; and the same method is employed to connect the upper end with the outlet of the percolator. A cork being inserted into the lower end of the tube, it is filled from the top with water. Cotton is then packed in the bottom of the percolator, and on this sugar is placed to a sufficient depth. Water is now to be poured in and the cork removed. The weight of the column of fluid then serves to hasten the process.

I found, by experiment, that five drops per minute was as fast as I could obtain syrup through a percolator as ordinarily arranged; while with the addition of a tube six feet in length, as above described, I could get fifty

drops per minute, or one-tenth the time otherwise required. It is well to have the upper end of the glass-tube made funnel-shaped so that it may rest upon the upper edge of the rubber ring, which, in turn, may be placed inside the nozzle of the percolator, thus forming a closer packing. The lower end of the tube should reach nearly to the bottom of the receiving vessel on the floor.

The first two or three ounces of syrup which is obtained contains the water first placed in the tube, and this should be returned to the percolator in order to pass through a second time.

OWEGO, N. Y., May, 1879.

Separation of Quinia and Strychnia.

WHEN small amounts of strychnine must be estimated in presence of much quinine, it is advisable, according to B. W. Dwars, to remove first the bulk of the quinine, and this is most effectually done by means of ammonium oxalate, quinine oxalate being almost insoluble in excess of that reagent. The author used the following process for the analysis of a sample of the well-known citrate of iron with quinia and strychnia which, as his analysis shows, is not always what it ought to be.

Five grammes were dissolved in a little water, supersaturated with ammonia, and shaken with chloroform. After evaporating the chloroform, and drying the residue at 110° C., there remained .81 grammes = 16.2 per cent of alkaloids. These were now dissolved in 10 cc. warm water and a few drops of sulphuric acid, then neutralized by ammonia and mixed with ammonium oxalate in excess.

After standing for twenty-four hours, the quinine oxalate was collected on a weighed filter, the mother liquor still adhering to it removed by gentle pressure, and finally once washed with water. After drying at 100° C., it weighed .704 grammes, or .618 quinine.

The filtrate and wash water were shaken with ammonia and chloroform, and the latter yielded on evaporation .1775 grammes, consisting of amorphous alkaloid (which ought not to exist in the pure drug), strychnine, and traces only of crystallizable quinine. It was twice treated with 3 cc. of pure ether, which dissolved the amorphous alkaloid, and left behind .021 grammes of pure strychnine. Only minute traces of strychnine were lost. The final result was as follows :—

Cryst. quinine.....	12.36%	=quinine citrate.....	17.66%.
Amorphous quinine.	3.13%	= " "	4.44%.
Strychnine.....	.42%		
	15.91		22.10
Loss..	.29		

So 22.10 per cent quinine citrate instead of 24 per cent, and .42 per cent strychnine instead of 1 per cent were found.—*Pharm. Weekblad* and *The Analyst*, May.

An Improved Horizontal Press.

THE firm of Schlag & Berend in Berlin has obtained a patent for an improved press which has several features of novelty and advantage. It permits, in the first place, a rapidly exerted direct pressure, and afterwards the pressure may be increased about 700 times by applying the power to the endless screw. When the space between the press-plates has been filled with the substance to be expressed, the cogwheel in front is shoved outwards, or detached so as not to engage the threads of the endless screw. The turning of the handle causes the movable plate to move inwards, and to compress the substance to the extent of the direct power applied. The cogwheel is now pushed into place, fixed by a pin, and the handle transferred to the axle carrying the endless screw, when, according to well-known physical laws, the power applied is enormously increased. As soon as the substance has been compressed as far as possible, the socket or female screw, in which the male screw carrying the movable press-plate travels, is uncoupled into its two component halves, as Fig. 2 shows (this attachment is not shown in Fig. 1), whereby the press-plate may be at once shoved back, without tedious screwing, into its original position, and whereby a great waste of time is prevented.—*Pharm. Zeit.*, No. 21.

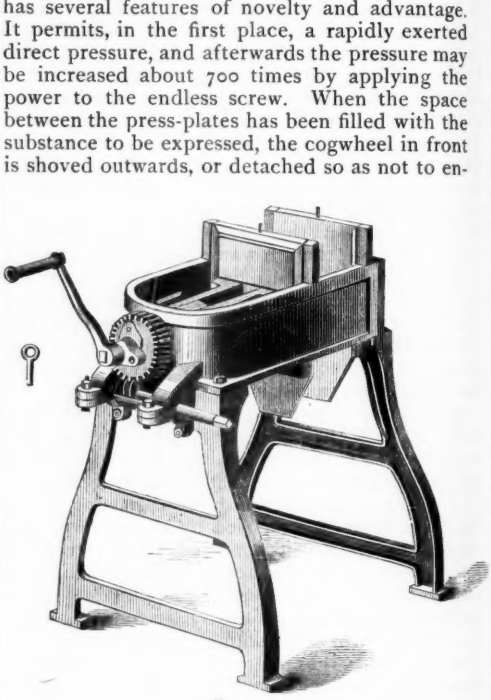


FIG. 1.

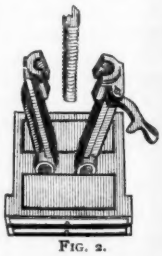


FIG. 2.

On the Action and Uses of Belladonna.

J. R. GASQUET, M.D., in *The Practitioner*, for May, 1879, writes as follows of Belladonna:

1. It relieves pain, sometimes very considerably, when it is of local and not central origin. Thus it is often useful in toothache (though less certainly so than gelsemium), and best in rheumatic and gouty pain, and in the neuralgias of hysteria and other centric affections. Perhaps its effect upon epilepsy is due to its arresting the centripetal stimulus producing the fit. Whether this be so or not, I am inclined to think it has been too much neglected since the use of the bromides, and that sometimes, at least, it has an effect when these fail; it may also be advantageously combined with them.

2. Belladonna relaxes spasm of the involuntary muscles. Its effects on the eye belong to a subject which is too special for me to handle; its power of dilating the os uteri, and relieving tenesmus of the bladder and rectum when applied locally is equally important, but perhaps less well known. A further example of this mode of its action is its influence on constipation, which Trousseau first made prominently known. This action upon involuntary muscles is frequently increased by the anæsthetic effect simultaneously exercised by belladonna upon the different branches of nerves which originate spasm, as in the cases of whooping-cough and spermatorrhœa; in this latter condition I have found it, on the whole, more reliable than the bromides.

3. The power of checking sweat is sometimes very valuable. Dr. Fothergill has recently insisted very strongly upon the value of belladonna, as enabling us to arrest the exhausting sweats of phthisis, and I am quite satisfied that, as a rule, this is beneficial. My own very limited experience, however, leads me to doubt whether it is always an unmixed good to check the sweating of phthisical patients, at any rate when the pyrexia is high, and the perspiration appears to be of service in reducing temperature.

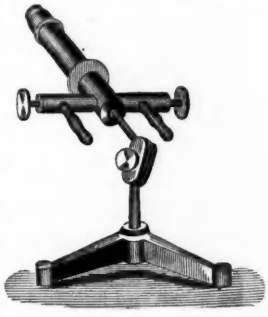
I have abundantly tested the efficacy of belladonna in checking the abundant salivation to which some lunatics are subject, and have always found it act with great rapidity. Its arresting the secretion of milk, and the collection of pus in an abscess, are instances of the same kind.

4. I now come to the power which belladonna has of arresting inhibitory action. In medicinal doses it sets the heart free from the controlling action of the vagus, without any other effect upon its innervation. It may, therefore, to some extent, replace or assist digitalis, and may be preferred if we do not desire to act upon the muscular structure of the heart, or to increase the blood-pressure by contracting the arterioles. It seems to be particularly indicated in cases of pure inhibition, and under this head I venture to remark its trial in the following conditions: In collapse from shock it seems likely to be very useful, and has been recently strongly recommended by an American physician.* It would probably be equally successful when the heart's action fails from sunstroke, or, on the other hand, from exposure to intense cold. So far as I know, no explanation has yet been suggested for those fatal cases of scarlatina, small pox, and other infectious diseases in which the patient is, as it were, knocked down at once, and dies speedily, often before the rash has appeared. I cannot go into the reasons which lead me to think that here, too, we have to do with an instance of collapse from shock; if so, belladonna or the hypodermic use of atropia, is well worth a trial, and may succeed where all else has failed. Dr. Harley urged its use in the adynamic stage of the infectious fevers, finding it there act as a powerful stimulant; here also, I suppose, it would set the heart's action free. I can less readily understand how it should speedily relieve acute local inflammations, as Dr. Phillips asserts of tonsillitis and meningitis.

This is another important therapeutical property of belladonna, which is probably due to its checking inhibitory action; I mean its power of neutralizing some of the effects of opium. Without discussing the whole question of the antagnoism of these two drugs, I may mention the following case in which it is useful: When added to a hypodermic injection of morphia, it often prevents the nausea and vomiting which this may produce; and when given with an opiate in phthisis, it not merely prevents sweating, but appears to keep up the activity of the lungs and heart.—*The Practitioner*, May.

A New Gas-Blowpipe.

AMONG the many blast-lamps which have been devised so far, only a small number are capable of yielding rapidly and without trouble a fine-pointed jet. In most burners the air-jet is not placed in the exact centre of the blast, or is not sufficiently steady to retain this position. The ordinary stop-cocks likewise interfere with a rapid and delicate adjustment of both jets. These defects are avoided in the blowpipe burner of which we give an illustration. The central tube of the jet, which is intended for air, carries two discs or shoulders at proper distances, upon which the outer tube, intended for gas, may be moved up or down without alter-

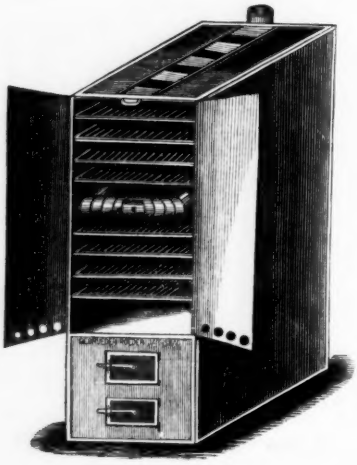


* See NEW REMEDIES, vol. vii., p. 106.

ing the correct central portion of the air-jet. In place of the stop-cocks, two screws, ending in conical seats, regulate the admission of gas and air. The screw-heads are respectively marked with letters, corresponding to gas or air. The jet may be pointed in any direction by means of the universal joint. The apparatus has been devised and is manufactured by Rob. Muencke (Muencke Brothers) in Berlin.—*Pharmac. Zeitung*, No. 23.

Portable Drying-Oven.

THE firm of Roeder Brothers, of Darmstadt,* manufactures a drying-oven, intended for drying fruit, which would also be suitable for many other purposes, particularly in pharmaceutical or chemical establishments. Its size is 24 inches wide, 32 inches deep, and 64 inches high. The space at the bottom is lined with fire-brick, and is a regular oven, to be fed with coal, wood, or other material. The top of this oven consists of a thick iron plate which is to be covered with a layer of sand. The products of combustion are led through a pipe which passes through the centre of the closet, so as to carry an additional amount of heat to the upper part of it. The substance to be dried is placed upon shelves, and the heat may be regulated by dampers on top of the closet, which also permit the escape of the moisture.—*Industrie Blätter*, No. 15.



Suppository Apparatus.

MR. D. DAWIDOW, of Mariupol, Russia, has described and figured a new contrivance for making suppositories in the *Pharmaceutische Zeitschrift f. Russland* (1879, 66). He says that he used it with success for the last two years, and that it permits the preparation of about 100 suppositories per hour.

A series of cones made of sheet-silver and capable of holding ½ to 1 drachm of suppository mass, are slit lengthwise on one side and the edges are made to fit tightly upon each other. The cone bears on either side, and soldered upon it, a narrow silver tube, each of which is destined to receive the prongs of a shear-like instrument, made of steel, and the handle of which consists of two semiglobes—an arrangement which is found more convenient than the ring-shaped handles of common shears.

The butter of cacao and other ingredients (soap, etc.) having been first formed into a uniform and soft mass in a mortar, and the alkaloids, extracts, etc., having been incorporated, the cone corresponding in size to the weight of the suppository required is pressed into the mass, removed, cleaned off, and immersed for an instant in hot water, when, on gently opening, the finished suppository will fall out. In place of the "shears," the slit cone may also be held together by means of a second entire cone, made of sheet-copper, with a handle at one end, and about three-fourths as long as the suppository cone (See Fig. 2). The latter modification, however, involves loss of time.

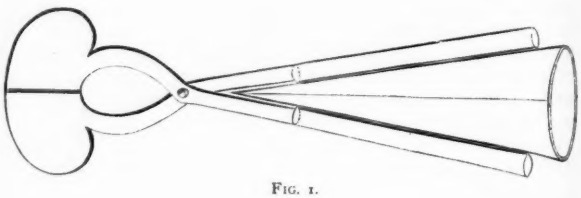


FIG. 1.

FIG. 2.

Milk Trees, or Vegetable Cows.

SINCE the reading of a paper by the chemist Boussingault before the French Academy, a few months ago, on the subject of the "cow tree," or Palo de Vacca, considerable attention has been attracted to the subject. This tree, which was discovered and made known by Humboldt, belongs to the same natural order (*Artocarpeæ*) as the poisonous upas tree of Java. But there are other trees known (perhaps not so well known to the general reader), the milky juice of which possesses similar properties to a greater or less extent. For instance, the "cow tree of Deme-

* Darmstädter Herdefabrik der Gebrüder Röder.

rara," which was first observed by a traveller named Smith in an excursion up that river. It is described as a tree from 30 to 40 feet high, with a diameter at the base of nearly 18 inches. The tree is known to botanists as *Tabernæmontana utilis* W. et Arn., and to the natives as "Hyahya." It belongs to the same natural order (*Apocynaceæ*) as the Penang India-rubber tree (*Urceola elastica* Roxb.) and the poison tree of Madagascar (*Cerbera Tanghin* Hook.), and our common American dog's bane. It occurs in great abundance in the forests of British Guiana, and its bark and pith are so rich in milk that a moderately sized stem which was felled on the bank of the forest stream colored the water, in the course of an hour, quite white and milky.

The milk is said to be much thicker and richer than cow's milk, and is perfectly innocuous and of a pleasant flavor; the natives use it as a refreshing beverage, and in all respects as animal milk. The Cinghalese also have a tree, called by them "kiriaghuma," but belonging to a different natural order of plants, the *Asclepiadaceæ*, which also includes our common milk weeds or silk weeds. This tree is the *Gymnema lactiferum* R. Br. of botanists, and yields a very pleasant tasted milk, which is employed for domestic purposes in Ceylon.

There appears to be also a milk tree common in the forests about Pará, and called by the natives "massenodendron," [?] but of which we have little definite knowledge, except that it was used for a long time on board of one of the vessels of the British navy cruising in Brazilian waters. It was said to suffer no chemical change by keeping, nor to show any tendency to sour.

Another milk tree is "tabaya dolce" (*Euphorbia balsamifera* Ait.) of the Canaries. This plant again belongs to a different natural order from any of the foregoing, namely, the *Euphorbiaceæ*, and one containing a large number of plants with acrid, purgative, and poisonous juices. Leopold von Buch states that the juice of this plant is similar to sweet milk, and thickened into a jelly is used as a delicacy.

A species of cactus (*Mamillaria simplex* Haw.) also yields a milky juice equally sweet and wholesome. The milk is stated, however, to be much inferior in quality to the majority of the above. The caoutchouc, or India-rubber of commerce, as it exudes from the tree, greatly resembles milk in color and density.—After *Scient. Amer.*

Summer Drinks.

A CORRESPONDENT of the *Confectioner's Journal* urges its readers to pay more attention to that feature of their trade, which has heretofore been largely monopolized by druggists and which is capable of producing a handsome revenue at a time in the year when sweetmeats are but little in demand. He offers some sound advice, which is worth the attention of druggists who have a mind to make this feature of their business profitable, and we will quote a few of his hints.

"The great and increasing sale of lager-beer, not for the sake of the beer alone, nor its effect, because that would make beer as popular and the sale as great in winter as in summer, which is not the fact. The sale of beer being chiefly in the summer season, whereas, on general principles the good it does, through either its stimulant or food qualities, better adapts it for cold seasons than warm ones. In warm weather its effect is to make one more sleepy and drowsy. It fills the stomach with a heavy liquid that requires much digestive strength and power. It fevers the body and brain, and after the exhilarating effect of the carbonic acid gas that fermentation has given to it has passed off, it leaves the body languid and the liver torpid."

Referring to the desirability of supplying a more desirable and less harmful drink to quench the popular thirst, he says:

"He must make his surroundings beautiful and inviting. He must give his mind to the work; must make an effort. If it is to be in soda water, by getting up extra nice soda water, the syrups made of the pure fruit juice, or other extra flavors, such as lemon or vanilla. Give good large glasses; do not use any of the compounds sold to the trade for the purpose of making a little syrup go a great way by making your drink "foam and stand" so much that your customers get only a good glass of "sweetened wind." These full glasses of "sweetened wind" have done much to make soda unpopular with the masses, from the fact that the people imagine, as rule, that they get nothing for their money. What they want is a good, long drink, something that has some body to it, solidity, not just a little foam of cream—a good ginger ale, a fine mead, a sherbet, a good coffee soda, a raspberry, strawberry, pineapple or orange syrup, lemon or orangeades. Good artificial or natural mineral waters, all drawn cold, can be made both good and popular by using nothing but good material. Throw away your artificial extracts to make these things, using only the fruits themselves in fruit-syrups. Of course you must use judgment in these things, and also judgment in letting the people know what you have got. But if only one-half the thought was spent in producing these, that is expended upon passable outside matters how much more would be the good pecuniary results.

"Another essential not to be overlooked is the dispensing counters, the tasty keeping of the draught apparatus and the fixtures: They should all be bright and clean, both behind and in front of the counters; once a week's washing will not do, but daily. A man does not want to feel

when he steps up to your counter that he is liable to take in a lot of poisons: freshness and cleanliness will dispel doubt; plants and flowers will make a cheerful effect; replace them weekly by making a contract with your florist for loan exhibits. A spray of water in some form, or a glass-washing machine, of which there are many new and beautiful designs made, add much and beget appetite. I think a glass-washing machine the best of investments, as it will pay a hundred fold its cost. Your customer feels, when he sees a glass taken off dripping with fresh, clean water, that he is not drinking from a glass that has been rinsed in the slops of a possible day's accumulations.

"Have your clerk who dispenses the drinks look clean, neat and tidy, as well as healthy. An unhealthy, sickly or delicate, feeble clerk will not add to your trade, in any business where drinks or eatables are sold; the reasons are obvious.

"Prepare yourself for the coming demand. Do not be afraid to spend a little money; if well spent it will come back an hundred-fold. Old receptacles and passages, cocks, pipes, etc., should be thoroughly scoured, especially if there be any copper or brass about them. Use the best of everything in whatever you sell, even if it lessens your profit—your increased sales will more than compensate you for your outlay. . . .

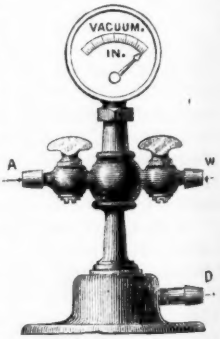
"To do all this, it is not necessary to resort to extra fine or elaborate apparatus, pyramids of carved marbles, etc. A good set of coolers, the common goose-neck fountain or draft-cock will answer. Of course, the finer counter apparatus is desirable when it can be afforded. A marble slab for the counter I should think indispensable."

Mistura Guaiaci in Clear Solution.

THE unpleasant taste of guaiacum, and its uninviting appearance when made into a draught, are inconveniences which have long hampered a valuable remedy, and are worth attempting to remove. With these impressions I consulted Mr. Martindale to try what could be done. Attempts to make a mixture by rubbing down ten grains of guaiacum with not more than twenty grains of liquor potassæ, and to dissolve ten grains of guaiacum in a drachm of glycerin failed completely; the guaiacum being precipitated. A mixture of tincture of guaiacum with glycerin in equal parts resulted in a perfectly clear solution. More glycerin was added and the solution still remained perfectly clear. The pungent and nauseating flavor of the guaiacum is thus rendered considerably softer, and altogether less objectionable. Another convenience is a diminution in the necessary bulk of the dose, which may conveniently be reduced within the capacity of a liqueur glass. An objection may arise, namely, that even if its flavor be rendered milder, the remedy must nevertheless be contained in this diminished bulk of fluid in a higher state of concentration, so that when the compound is mixed with the fluids of the stomach, this fact will become manifest; but it is not so. The action of a glycerin solution on the tissues is much more gradually exerted than that of an aqueous one, as any one may know who has compared the effect on a sore throat, by painting it at one time with a glycerole of tannic acid, and at another with an equivalent aqueous solution of the acid, or who has tried on a patch of slightly raw skin an aqueous against a glycerin solution of iodine of corresponding strength. I would, therefore, propose the admixture of half a drachm or a drachm of the tincture of guaiacum with one or two drachms of glycerin for a dose; and I must explain that I make use of a rectified spirit tincture and not the ammoniated tincture of the Pharmacopœia. Furthermore, the mixture of the tincture with glycerin will not bear dilution with water, which renders it turbid. If it is to be diluted it must be with glycerin.—BALMANNO SQUIRE in the *Br. Med. Jour.*

Körting's Vacuum Pump.

THE idea of using the traction or the pressure of a column of water for the purpose of creating a vacuum to be utilized for rapid filtration is realized in the vacuum pump of which we give here an illustration and description. The principle of the mechanism is, of course, not new, we ourselves having previously given descriptions of similar appliances. But we consider the present apparatus an improvement, as it is more easily placed in any position on the work table of the laboratory.



The apparatus has two inlets, at *A* and *W*, and one outlet, at *D*. A stream of water, with a pressure *equal to* 15 *feet*, is allowed to pass in at *W*, from whence it is forced through a very small jet downwards, and is forced out at *D*, at the same time pulling with it a quantity of air entering at *A*, with which the water mixes before issuing at *D*. The orifice, *A*, being connected by means of flexible tubing with the receptacle into which the filter fits air-tight, this receptacle thereby becomes exhausted of air, and the filter operates with increased celerity, owing to the pressure of the atmosphere. But while the suction of the water causes a vacuum in the filter-receptacle, it also exhausts the vacuum gauge fastened on top of the apparatus.

The gauge consists of a hollow spiral made of thin brass plates, the loose point of the spiral carrying the index, which is outside the box. As soon as the interior of the spiral becomes exhausted of air, it contracts by curling up, and thereby rotates the index along the scale, which is graduated specially for each instrument.

The other end of the spiral is connected, air-tight, with the vacuum-exhaust. The round box bearing on its face the scale has no other object but to serve as a guard and guide for the delicate spiral, and to carry the vacuum-scale; its interior does *not* communicate with the exhaust.

This explanation will be sufficient to understand the working of the pump. Having been placed or fixed on the table, the connections are made with rubber hose, or, if preferred, with permanent pipes of iron, lead, etc. If rubber hose is used, the thicker kinds should be selected to prevent flattening when exhausted, and all kinks should be carefully avoided.

The water which is to be passed through the apparatus must be perfectly clear; otherwise a strainer must be put in the water-connection, with openings of *not more than* $\frac{1}{16}$ inch. With a water pressure of 15 lbs., nearly a complete vacuum is produced. There need be no extra length of the discharge pipe, but the water can be run directly into the nearest convenient wastepipe or receptacle. If no pressure of water is at disposal wherewith to connect direct, the necessary height can easily be obtained by fixing a barrel at the height of 15 feet above the apparatus, and filling the same by a small hand-pump. The quantity of water required is one gallon per minute. The price of the apparatus complete, as shown in cut, is $16.00. It is made by the licensees and manufactures of E. Körting's steam jets, Messrs. Schutte & Goehring, Twelfth and Thompson sts., Philadelphia, Pa.

Hæmatinic Properties of Dialyzed Iron.

Dr. Robert Amory, of Boston, has recently reported a series of observations made by him upon the blood of patients to whom dialyzed iron (Wyeth's) was being administered, and says: "Dialyzed iron may increase the globular richness of the blood, but it may have no effect in bringing about the chemical combination of oxy-hæmoglobin. If the suspicion be true that there is a state of ill-health in which the corpuscles may be numerically normal, but may simultaneously be deficient in coloring matter, we may conceive of an anæmic or chlorotic patient who may require some therapeutical means for improving this deficiency other than simple iron. I may have been extremely fortunate in selecting just those cases (five in all) in which a simple form of iron was indicated, and it may not be impossible that another form would have benefited my cases as much as the dialyzed iron; yet the latter is preferable to the more astringent iron-salts, because it does not impair the digestion, nor produce constipation.

Now one final word about the various solutions of dialyzed iron. Many of these solutions are valueless, more are very dilute, and a few are of pretty uniform standard and contain only the products of dialysis from a salt of iron and distilled water. If physicians use a worthless preparation, they need not expect an improvement in the anæmia; if they use a dilute solution, they must use a larger amount of it. In the preparation I used for these experiments, the solution had a specific gravity of 1.042, and had no free acid.—*Boston Med. and Surg. Jour.*

SALICYLIC ACID FROM WINTERGREEN OIL.

BY J. U. LLOYD.

Take of

Pure wintergreen oil	3 parts.
White caustic potash	3 "
Muriatic acid	8 "
Water	q. s.

Dissolve the caustic potassa in two parts of water in a glass or porcelain vessel, and raise to the temperature of 180° F.

Stir into this gradually the wintergreen oil, using a glass or porcelain spatula. Into another vessel place 64 parts of cold distilled water, and add the muriatic acid. Then with constant stirring add the solution of salicylate of potassium.

The magma of minute crystals of salicylic acid must be separated with a thin muslin strainer (previously moistened) and pressed, then dried by exposure to a temperature of 150°. The yield of this crude acid will be slightly over two parts.

Dissolve this in six parts of cold alcohol and filter through a funnel stopped with cotton. Then with constant stirring pour the filtrate into 32 parts of cold water. The magma of minute crystals must be separated with a thin muslin strainer, and dried by exposure to a heat of 150° F. Yield, trifle less than 2 parts.

Fuchsine in Albuminuria.

Bergeron and Clouet, a few years ago, announced the successful treatment of albuminuria by pure fuchsine (hydrochlorate of rosaniline). Their statement is now confirmed by Mr. Bouchut, who has seen ten cases recover in from five days to five months, in his clinic in the children's hospital at Paris. He states that the remedy—which, of course, is that variety prepared without the intervention of arsenic acid, (see the note below)—is perfectly harmless in the quantity employed by him. He administered it in doses of 0.05 gm. ($\frac{3}{4}$ grain) to 0.50 gm. (nearly 8 grains) per day. Three-fourths of a grain each day for three months represent about 68 grains; and this amount produced

no special physiological effect. The children did not lose their appetite, but ate their regular food; nor was there any disturbance of the digestive organs. In conjunction with fuchsine, Mr. Bouchut used a copious milk diet, from 1 to 3 litres (2 to 6 pints) of milk being given to each child per day, sometimes cold, sometimes warm, or aromatized with a little chocolate or a little coffee, a trace of cherry-laurel water, etc., in order not to make the children tired of it.

The mixture containing the fuchsine was also aromatized, and prepared as follows:

Julep of Gum arabic *.....	100 grams.
Fuchsine.....0.15	"
Oil of peppermint or tincture of star-anise.....	q. s.

Mr. Bouchut adds that, after concluding the fuchsine treatment, he administers tannic or gallic acid, preferably the latter, in doses of 0.05, 0.10, and 0.15 gm. ($\frac{3}{4}$, $1\frac{1}{2}$, and $2\frac{1}{4}$ grains) per day.—*Rép. de Pharm.*, 1879, 161.

* Julep of gum arabic, or *Julep gommeux*, *Potion gommeuse* of the French Codex, is prepared from

Gum arabic, powdered.....	10 parts.
Syrup of acacia.....	30 "
Orange-flower water.....	10 "
Water.....100	"

[Should any of our readers desire to experiment with this substance, we would particularly caution them to be careful in obtaining the proper kind of fuchsine. To make the matter plain, we will briefly explain the formation of aniline, rosaniline, and fuchsine, leaving aside technicalities.

Nitro-benzol or nitro-benzene or oil of mirbane or artificial oil of bitter almonds, is now prepared in immense quantities by acting upon *benzol* or *benzene* (obtained from coal-tar) with strong nitric acid.

C_6H	+ HNO_3 =	$C_6H_5(NO_2)$	+ H_2O.
Benzol or Benzene	+ Nitric acid	= Nitro-benzol or Nitro-benzene.	+ Water.

By means of reducing agents, that is, such substances as will remove oxygen and substitute hydrogen in its place, which in the present instance is best accomplished by ferrous acetate, the nitro-benzene is converted into aniline. In the following formula the ferrous acetate is disregarded and only the hydrogen which is generated by its intervention is indicated:

$C_6H_5(NO_2)$	+ $3H_2$	= $C_6H_5(NH_2)$	+ $2H_2O$.
Nitrobenzene	+ Hydrogen	= *Aniline*	+ Water.

Since *Aniline* thus appears to be formed from benzene (C_6H_6) with the substitution of the radical amidogen NH_2 in place of one atom of hydrogen, it is also called amidobenzene or amidobenzol.

Aniline, however, has been found to be incapable of furnishing rosaniline, unless it is mixed with toluidine, which is formed similarly to aniline by starting from the hydrocarbon *toluol* or *toluene*, C_7H_8, likewise obtained from coal-tar:

C_7H_8	+ HNO_3	= $C_7H_7(NO_2)$	+ H_2O.
Toluene or Toluol	+ Nitric Acid	= Nitrotoluene or Nitrotoluol.	+ Water.

$C_7H_7(NO_2)$	+ $3H_2$	= $C_7H_7(NH_2)$	+ $2H_2O$.
Nitrotoluene	+ Hydrogen	= Amidotoluene or *Toluidine*.	+ Water.

Now a mixture of *aniline* and *toluidine*, in presence of water, may be *oxidized* to *rosaniline* by various agents. As long as the substance was used only as a dye, the cheapest oxidizing agent which was found to act best was used. This was *arsenic acid*, H_3AsO_4, which, on heating in presence of oxidizable substances, decomposes into arsenious acid and free available oxygen. Hence the product and all the secondary products prepared from it used to be heavily contaminated with arsenic. The reaction is shown by the following formula, in which the oxidizing action of arsenic acid is indicated, in brief, by the 3O, which removes 6 hydrogen atoms:

$C_6H_5NH_2$	+ $2C_7H_7NH_2$	+ 3O =
Aniline	+ Toluidine	+ Oxygen =
$C_6H_5N.2C_7H_7N$		+ $3H_2O$,
Or $C_{20}H_{19}N_3$		
Rosaniline or Fuchsine		+ Water.

As soon, however, as the secondary products of rosaniline, such as fuchsine, had begun to be used, in spite of their poisonous nature, by confectioners to color pastry, and particularly by wine-growers to color wines, the sanitary authorities forbade their use except for ordinary dyeing. This was one of the chief reasons why many manufacturers of aniline colors changed their process and substituted for the old process another equally effective one, namely, that of heating a mixture of pure aniline and nitro-toluol with hydrochloric acid and metallic iron, or some modification of this process. The product in this case is, of course, free from arsenic, and is *said* to be innocuous in small quantities. But opinions on this subject differ.

Rosaniline itself is a colorless, crystalline, alkaline base, hardly soluble in water, insoluble in ether, but soluble with dark-red color in alcohol. It becomes gradually red when exposed to air, and forms crystallizable, permanent *colored* salts with acids, which are fine red by transmitted light, and have a fine green, shining metallic lustre by reflected light. The *hydrochlorate of rosaniline*, of the composition $C_{19}H_{20}N.HCl$, is known in commerce as *fuchsine*. It is but little soluble in water, more easily in alcohol, and not at all in ether. But, like all aniline colors, a very small quantity suffices to color a large bulk of liquid. A solution of 1 part in 100 *million* parts of water is still distinctly red in large layers, and is still able to dye a silken thread.

In procuring *fuchsine* for medical purposes, it is absolutely essential to make sure that it was *not* prepared with arsenic. Fuchsine prepared without arsenic sells in Europe for about $4.80 per kilogramme, wholesale, and for 50c. per oz. in this country, at retail.—ED. N. R.]

Preparation of Nicotine.

MR. R. LAIBLIN has lately examined the alkaloid nicotine and its derivatives in a very detailed manner. For this purpose it was necessary for him to prepare a sufficiently large quantity of the alkaloid in a perfectly pure state. It was likewise an object to ascertain the most advantageous method for preparing it. After various trials, he selected the following process, which is a combination of the advantages inherent to those previously proposed, with an elimination of their objectionable points.

The coarsely cut tobacco leaves are placed into a capacious wooden tub or tinned copper boiler, covered with enough water to reach about six inches above their surface, and left standing for twenty-four hours. At the end of this time the mass is heated either over a fire, or by the introduction of superheated steam, for half an hour, after which the liquid is drawn off and the residue pressed. The leaves are once more extracted in the same manner, the liquids

united, evaporated to one-third, allowed to settle and mixed (in the still) with 10% of their weight of caustic lime, previously caused to fall to powder by moistening with water. The still is then connected with the condenser and heated from outside, while at the same time a current of superheated steam is passed through the liquid in the still.

The distillate thus obtained is yellowish and has the repulsive odor of crude nicotine. As soon as the liquid coming over betrays but little further odor, the distillation is interrupted. The distillate is now acidulated with oxalic acid, the quantity of which is noted down, and the whole evaporated on the water bath to a thin syrup. The resulting mass consists mainly of oxalate of nicotine, together with impurities, and some ammonium oxalate. The nicotine may be separated from the latter by decomposing the syrupy residue at once with concentrated potassa lye, calculated upon the quantity of oxalic acid used, when the crude nicotine rises to the top as a brown oil, which is removed by a pipette. The lower layer is shaken with ether to remove the remainder of nicotine, and after the evaporation of the ether, the residue added to the crude nicotine first obtained. To purify it, it is first distilled, over a free fire, in a current of hydrogen gas, when it passes over between 100° and 250° as a pale yellowish oil, leaving a brownish-black tar behind. The tolerable pure base is now dissolved in ether, and the solution shaken with powdered oxalic acid to faint acid reaction, whereby a white precipitate of nicotine oxalate is produced, which almost instantly melts to a faintly yellow liquid. This oxalate is removed, washed with ether, dissolved in water, and once more decomposed by potassa. The oily alkaloid is then transferred to an apparatus, arranged for fractional distillation, which is heated at first by a paraffin bath, and through which a constant weak current of dry hydrogen passes. Caoutchouc or rubber connections cannot be used, as the nicotine vapor easily extracts sulphur from them. After the temperature has been maintained for about six hours at 110° C., whereby all ether, ammonia, most of the water, etc., has been driven out, it is raised in intervals of two to three hours to 210° at which degree all the water, and but a very small quantity of nicotine is lost. The paraffin bath is now removed, and the apparatus heated over a free fire. As soon as the nicotine comes over, the thermometer rises to 230°, and towards 250° C. nearly the whole of the substance passes over, only a small residue remaining. The colorless distillate is once or twice more redistilled under the same precautions, when it is finally obtained as a colorless perfectly pure liquid of a peculiar narcotic odor, which in no wise resembles that of tobacco, of a constant boiling point between 240° and 242° C. The yield from 100 lbs. of air-dry tobacco was in the most favorable case 600 grams or 1.2% of pure nicotine. The author prepared about 1 kilo (2¼ lb.) of the latter for the purposes of his researches. The process involves no great expense, so that the pure alkaloid could by means of it be prepared much cheaper than heretofore.—From *Annal. d. Chem.*, vol. 196, p. 130.

RECENT PAPERS.

The Logwood Test for Alum in Flour.—Mr. W W. Stoddart has had occasion to doubt the statement recently so often encountered, that the logwood test for alum is unreliable. In his hands the test generally succeeded. But he suggests a cause why it may have been unsuccessful in the hands of some experimenters.

He thinks the disappointment is in the logwood itself. The wood must be freshly cut and kept in a stoppered bottle, secure from the atmosphere. The decoction or alcoholic tincture also must be recently prepared. If this precaution be not strictly observed, the logwood test is quite useless. He has frequently found that, where the tincture has been made for some months, even strong ammonia or solution of potassa has not had any effect in altering the color of the logwood solution. The fact is, that the usefulness of this test is altogether dependent on the presence of hæmatein-ammonia, which is instantly formed when ammonia is added to hæmatoxylin. If a few crystals of fresh hæmatoxylin be used, instead of the wood itself, the same reaction is produced. The solution, on exposure to air, changes to a brown, but if a trace of alum be present, a beautiful and striking blue is left instead.

His experience has been so invariable and distinctive, that, if this singular reaction is wanting, he does not proceed further in the search for alum.

Mr. W. C. Young also noticed some difficulty with this test. He found that if alum, in powder, be mixed with flour, he mostly failed to obtain the reaction. Even when applied to powdered alum directly, the peculiar bluish color came very slowly, and where much carbonate of ammonium had been used, the deep claret color of the logwood test had changed to brown in the upper part of the liquid before anything like the blue appeared in the lower.

This result clearly indicated a solution of the difficulty, as it showed that it was necessary to have the alum dissolved in water before applying the test, and upon mixing the flour to a thin paste with boiling water, previous to adding the ammoniacal logwood tincture, a bluish-gray color is produced in a few minutes, which is unmistakable with so small a quantity as 5 grains of alum to 4 lbs. of flour; the color stands well for seven days, whereas the ordinary color obtained without alum will not last as many hours.

Treated in this way the test answers well, no matter what age the logwood tincture may be, or what the character of the chips from which it is made, always provided that the deep claret color is produced in it on the addition of solution of carbonate of ammonium.—*The Analyst.*

The Manufacture of Potassium Iodide on the large Scale. (E. Schering.)—The following three methods are in actual use:

1. Decomposition of barium iodide (obtained from barium sulphide and iodine) with potassium sulphate.

2. Introduction of iodine into caustic potassa; evaporation to dryness, and fusion with carbon, in order to reduce iodate.

3. Decomposition of ferroso-ferric iodide with potassium carbonate.

Satisfactory results can be obtained by any of these methods, and the choice must be determined by local considerations.

In method No. 1, the preparation of a barium sulphide of high and regular strength is not unattended with nuisance, and the lixiviation of the barium sulphate requires much time. On the other hand, potassium sulphate can be obtained cheaper and purer than the corresponding carbonate, whilst the barium sulphate can be readily utilized for the reproduction of sulphide.

Method No. 2 obviates the necessity of washing a precipitate, and yields at once a very strong solution of potassium iodide; but the preparation of pure caustic potassa and the concentration and subsequent fusion are circumstantial and tedious. The author therefore prefers the third method, as ferroso-ferric iodide is easily prepared, and the carbonate of iron is easily washed.

To obtain cubic crystals of a porcelain-like appearance, it is essential, in the first method, to insure the complete decomposition of the barium sulphide by the iodine: if alkaline sulphides are mixed with the potassium iodide, the crystals are paltry and glassy. If the lye contains iron sulphide, which is soluble in hot and concentrated potassium iodide, the crystals take a blue appearance. An excess of iodine dissolves foreign metals present in the barium sulphide, and the crystals may then be discolored.

In the case of the second method, irregularity in melting may produce iodic acid, and a caustic potassa not free from sulphates causes the presence of alkaline sulphide in the lye. Both the injurious impurities must be removed prior to crystallizing.

In the third method, these annoyances are excluded. Salts of sodium must in all cases be avoided. Some manufacturers, to prevent presence of sulphides, leave purposely a trace of iodate in the lye. The result is that the crystals turn yellow. The presence of lead in the iodine is exceedingly objectionable. This metal is soluble in concentrated potassium iodate, and cannot be precipitated by sulphuretted hydrogen except after great dilution. If not removed, lead affects not merely the color, but the forms of the crystals.

No demonstrable trace of potassium carbonate is admissible, either for medical or photographic purposes. Potassium iodide, therefore, should be unaffected by salts of barium. The perfect absence of chlorine can never be attained, as even the best samples of iodine, as well as of potassium carbonate, contain traces of this impurity.

The Chilian iodine, obtained from soda-saltpetre, is becoming a formidable rival to the European product, which cannot be offered at a reduced figure, as the manufacturers have lost their market for potassium chloride, in consequence of the rivalry of the Stassfurt mines. Chilian iodine is met with in commerce either as a paste or as copper iodide.—*Chem. News*, fr. *Die Chem. Industrie.*

Preparation of Pure Nitrogen.—(W. GATEHOUSE.) When ammonium nitrate is heated with manganese dioxide (peroxide of m.), the mixture rapidly assumes a red heat. But if the temperature is kept down as much as possible, to about 180° C. (=356° F.), pure nitrogen is given off, according to the equation:

$$4NH_4NO_3 + MnO_2 = MnNO_3 + 8H_2O + 3N_2$$

3 grams each of ammonium nitrate and manganese dioxide yield 630 cc. of nitrogen in practice, which is nearly the theoretical quantity.—*Chem. News.*

Solution of Iodoform and Iodoform-Charpie.—On shaking tincture of iodine with a piece of fused caustic potassa, the resulting colorless liquid assumes the characteristic odor of iodoform. In this simple form the liquid possesses a high therapeutic effect, particularly for healing indolent ulcers, where pure iodoform is found very useful. The odor of iodoform may easily be covered by a little eau de cologne. Charpie dipped into this decolorized tincture of iodine, and afterwards dried (at a very gentle heat), is an excellent dressing for sores. The liquid is also miscible with glycerin.—*Pharm. J. and Trans.* and *Zeitsch. d. Oest. Ap. V.*

Purification of Impure Mercury.—(J. W. BRUEHL.) Mercury contaminated with foreign metals may be completely purified by the following method. Dissolve five grams of potassium bichromate and a few cc. of sulphuric acid in one litre of water, and shake the impure mercury with an equal volume of this solution. The metal separates in small globules, and a small quantity is temporarily converted into red chromate. The bottle or flask is shaken until the red compound has disappeared and the aqueous solution has assumed a pure green color, owing to chromium sulphate. A fine gray powder, consisting of the oxides of foreign metals, will then be found floating on top of the mercury, which is washed off by a strong jet of water. If the mercury was very impure, the process may have to be repeated until no more of the gray powder makes its appearance. Finally the mercury will be obtained perfectly pure, and fit for all purposes.—*Ber. d. Deutsch. Chem. Ges.*, 1879, 204.

The solution of bichromate of potassium, mentioned above, may also be filled in the apparatus devised by Lothar Meyer, and illustrated on page 173.—ED. N. R.

Hypodermic Use of Hydrobromate of Quinia.—HENRY M. FIELD, M.D., of Vermont, contributes to the *Cincinnati Lancet and Clinic* a resumé on this subject, in which he attempts to show that hydrobromate of quinia can be used hypodermically with rapid effect and entire safety when not more than fifteen to twenty drops are injected at one point. The solution recommended is that employed by Gubler, of Paris, as follows: basic hydrobromate of quinia, 1 gram; rectified alcohol, 2.50 grams; distilled water, 7.50 grams.

Boille has suggested an artifice whereby the ordinary solubility of the hydrobromate is said to be increased, and it is better fitted for hypodermic use. Ten parts of cold water are added to a saturated solution in boiling water (1 to 5), after which no salt is deposited on cooling, and the strength becomes 1 to 15 instead of 1 to 60.

Gubler objects to the admixture of glycerin with the solution intended for hypodermic use, on account of its irritant effect, but finds no such objection to the employment of alcohol, as suggested in the above formula. The injection, so prepared, leaves behind no indurated or painful nodes, nor does it cause more serious inflammatory troubles, such as follow the use of acid sulphate of quinia. The solution is of a thick syrupy consistence, but is readily absorbed from the interstices of the connective tissue. It causes at first an impression of heat like that of a slight burn: this soon passes off, however.

Tobacco Poisoning.—DR. S. C. DUMM, of Constantia, Ohio, reports the case of a man, aged 35 years, habituated since 10 years of age to the use of tobacco—amount not stated—who suffered from loss of weight, strength, and energy, aching of muscles, absence of sexual appetite, progressive failure of sight, and low spirits. Stoppage of tobacco, and the employment of strychnia, phosphoric acid, galvanism did not prove particularly serviceable, and resort was then had to damiana and cubebs with favorable results.

Chlorate of Potassium in Ulcerated and Diphtheritic Throats.—(T. F. RUMBOLD, M.D.) The writer has observed the effects of the use of this remedy in hundreds of instances, and questions not only its efficacy in any case of aggravated sore throat, *i. e.*, either diphtheritic or ulcerated, but asserts that its use is *always* followed by an increase of the symptoms. He is certain that over one hundred patients have told him that chlorate of potash had made their throat symptoms much worse. They were each affected with only slight difficulty in swallowing. After the use of the chlorate their local symptoms were rapidly aggravated, and constitutional disturbance supervened, so that they were obliged to consult a physician. He believes that a great many sore throats are made to assume a gangrenous *appearance* by the local use of this remedy, and that a large number of the mild cases of diphtheritic inflammation will recover if chlorate of potash is *not* used, and that *no* patient having the disease in a severe form will recover if it is continuously employed.

On the Therapeutic Use of Sulphides.—Dr. G. V. Poore, in *The Lancet* of May 3d, in the course of an article on "The Sulphur Waters of the Pyrenees," says: "When prescribing sulphides, it has been my invariable custom to advise the patient to get very small quantities made up at a time, and to warn him that, unless the medicine has the familiar odor of rotten eggs, it can do him no good. Better than giving a solution of the sulphides is to allow the patient to have a small and well-stoppered bottle filled with potassium or calcium sulphide, whence he may take his dose, roughly estimated on the point of a penknife, as required. Good service has undoubtedly been done by the introduction of the sulphides in perles, and I have reason to believe that the sulphide remains unoxidized in the perles for an indefinite period. I have lately, however, seen a sample of so-called 'perles of sulphide calcium,' which on examination were found to contain no sulphide at all. The best way of all, no doubt, to prescribe sulphides is to send the patient, if possible, to a so-called sulphur spring, where he may drink the water impregnated with hydrogen sulphide, and holding other sulphides in solution before oxidation has had time to occur. Then one may be sure that the medicine prescribed is actually being taken."

The Tendency of the Times in the Mineral Water Trade.—In the article referred to in the foregoing abstract, the writer says: "Another regrettable fact is the part which limited companies are beginning to play in the management of mineral springs. It has been discovered that a spring of water, if it be sufficiently puffed, is a surer and more valuable source of income than a gold mine, and the statements put forward in advertisements are very often absolutely unwarrantable. It is desirable that the profession on the Continent, and especially in France, should unite for the purpose of restraining the statements of those who have merely a money interest in n ineral springs, for it will become exceedingly difficult to prescribe this or that water if, by so doing, one should seem to countenance the unwarrantable assertions which are made concerning them. It would be satisfactory if such rash assertions were made only by the trading companies, but this, unfortunately, is not the case, for many of the medical monographs appear to show a very undue amount of local bias, and to lend a too ready credence to startling therapeutic theories. It would be a great boon if the examination of the mineral springs of Europe could be made by an international commission, which should be entirely without interest in the popularity or earnings of any particular spring."

Therapeutic Value of Croton Chloral.—Dr. Riddell has had good results from the employment of croton (butyl) chloral in paroxysmal headache—5 grains twice daily and 10 grains at night, dissolved in spirits of wine and glycerin, with a little acid and syrup of orange-peel to cover the flavor. As a result of considerable reco ded observation, he finds that the cases most benefited are females with headache from mental distress, headaches occurring about the menopause, especially when of a neuralgic character, and cases of tic douloureux. To produce sleep it is not so serviceable as chloral hydrate, nor is it usually in ovarian neuralgia. In delirium tremens with feeble circulation, its combination with digitalis acted remarkably well, small doses of either being needed only: 10 to 30 grains every two to three hours, with drachm and two-drachm doses of infusion of digitalis, being used. In toothache it was inferior to gelsemium. To be serviceable in neuralgia of the fifth cranial nerve, it must be given in doses of five grains three to four times daily, and increased if necessary. It is always better to give it in solution than in powder or pill.—*The Lancet.*

Sodium Hyposulphite in Erysipelas.—The recommendation of this remedy as a specific against erysipelas is a matter of periodical occurrence. The latest appears from a photographer who writes to *Anthony's Bulletin* that he has derived much benefit from it in his own person and has personal knowledge of its value in at least fifty other cases. A saturated solution of the hyposulphite in water, of which a teaspoon- to a tablespoonful taken every one or two hours is the best form in which to use it internally, while externally equal parts of the solution and glycerin should be applied by means of cotton flannel. Avoid stimulants and eat farinaceous food only. After the doses above mentioned have been continued for twelve hours, they may be reduced to about one-third the frequency. A moderate amount of purgation does not warrant the stoppage of the remedy.

Hyoscyamine used Hypodermically.—Dr. Leared says that a gentleman had nightly injections of morphia owing to sleeplessness and irritability accompanying phthisis. The quantity having gradually been increased to a grain, one-fortieth of a grain of hyoscyamine was substituted for it and in less than ten minutes the injection was followed by giddiness and sense of compression of the top of the head. In half an hour some milk recently swallowed was vomited. Active delirium followed next and it was noticed that objects appeared nearer than natural, as the patient grasped at things beyond his reach, as if they were close at hand. Hallucinations of sight with dilated pupils and disturbance of vision were likewise noticeable and, together with the delirium, lasted upwards of four hours. Not until twenty-four hours had passed did all the symptoms disappear.—*The Lancet*, Apr. 5th.

Belladonna as an Intestinal Remedy.—(P. B. Scott, M.D) This writer considers the use of belladonna should be more frequent in painful abdominal affections of children because of its effectiveness as an anodyne and antispasmodic; its safety owing to their greater tolerance of its action, and our power to measure its effect by means of the eye and skin. He cites cases to show its efficacy in constipation, colic, and perityphlitis.—*Louisville Medical News.*

To Protect Iron from Rust.—Iron can be protected from rust and made very pleasing in color by a method invented by Mr. Dode. He coats the surface with a thin film of borate of lead, in which some oxide of copper has been dissolved, and some scales of precipitated platinum held in suspension, by means of a brush or a bath. He then heats the composition until it is diffused. The result is a thin, glassy coating, which will withstand the action of sewer gases, dilute acids or alkalies, and the heat of a kitchen fire. If all be true that is said of this "platinized iron," as it is called, it will find numerous applications. —*Kansas City Rev. of Sci. and Ind.*

Extract of Tar.—Place any convenient quantity of pure Norway tar into a glazed earthen or porcelain vessel, and infuse it three several times with boiling water, letting each infusion stand over the residue for a week, and frequently stirring. The liquids are then united and treated with sufficient calcined magnesia until litmus paper is no longer reddened. After twenty-four hours, the liquid is filtered, and evaporated with a gentle heat on a water-bath to an extract, which is soluble in water and contains all the medicinal soluble constituents of tar.—A. Ciullini in *L'Orosi*, 1879, 148.

Extract of Maize-Hairs.—An extract prepared from the hairy stigmas of Indian corn (*Zea Mays*) has been reported by Dr. Labee as exceedingly efficacious as a demulcent and gently stimulating diuretic in affections of the bladder and urinary passages. The extract is given in doses of two tablespoonfuls a day in syrup or some other vehicle.—*Mon. Thérap.*

Cantharidin used Hypodermically.—A chloroformic solution of cantharidin has of late been used hypodermically in the treatment of certain forms of nephritis, also in treating nævi, and as an anodyne in painful affections. Perhaps the chloroform alone had in the latter case a large share in the success. Dr. Laboulbène gives the following formula:

Cantharidin.....0.10 gm. or 1½ grains
Chloroform.....10.00 " " 160 minims.

The quantity to be injected at a time, varies from ½

grain of cantharidin (10 minims of the solution), to $\frac{1}{6}$ grain (about 25 minims).—*Rép. de Pharm.*, 1879, 193.

Cayaponine.—PROF. GUBLER has found this alkaloid—extracted from a cucurbitaceous plant of Brazil, viz., *Cayaponia globulosa*—to be a prompt purgative without griping, in doses of 6 mgm. ($\frac{1}{10}$ grain).—*Rép. de Pharm.*, 1879, 193.

Pelletierine.—The dose of this alkaloid of pomegranate root bark is stated to be at least 50 centigrams (0 50 gm.) for an adult, or about 8 grains.

Preparation of Chemically Pure Tartaric Acid.—Owing to the strict requirements of the modern pharmacopœias as regards the purity of the tartaric acid for use in medicine, the commercial impurities have of late been more frequently pointed out. These impurities, however, are almost unavoidable, unless a different method of manufacture be adopted. Some brands of tartaric acid of the market are indeed of sufficient purity to answer every critical test, but the majority contain either sulphuric acid or lead or other foreign substances, according as the acid was made by decomposing calcium tartrate with sulphuric acid, or by decomposing tartrate of lead with sulphuretted hydrogen. MR. OSCAR FICINUS, of Bensheim, proposes the following process of manufacture to produce a pure product.

Saturate the crude tartar with carbonate of calcium, decompose the resulting calcium tartrate with solution of zinc chloride, whereby calcium chloride and tartrate of zinc are produced. The latter is almost insoluble, and is completely decomposed by sulphuretted hydrogen. The residuary sulphide of zinc may again be converted by means of hydrochloric acid into chloride of zinc and sulphuretted hydrogen, so that the expense of the process is very small.

The liquid filtered from the precipitated sulphide of zinc, containing tartaric and sulphydric acids in solution, is heated for some time to 60–80° C., in order to dissipate the latter acid, filtered from the precipitated sulphur, and concentrated to the point of crystallization.—*Arch. d. Pharm.*, April, 1879. 310.

Syrup of Tolu.—DARIUS RAUZIÈRES proposes to prepare a highly aromatic syrup of tolu by the following process:

Macerate 200 gm. of balsam of tolu in 200 gm. of alcohol of 90 per cent; after 12 hours add to it 2,000 gm. of cold water. Then distil off the alcohol and dissolve in it, in the cold, an equal weight of sugar. On the other hand, the residue left in the still is to be filtered, and in the filtrate double its weight of sugar is dissolved by aid of a gentle heat. When the latter solution has become cold, the alcoholic syrup is mixed with it, and the whole filtered.—*Rép. de Pharm.*, 1879, 197.

Tartrate of Iron and Potassium [or Ammonium.]—MR. YVON states that tartrate of iron and potassium salt is not well soluble, unless it contains ammonia. He, therefore, proposes to substitute ammonium for the potassium entirely. The tartrate of iron and ammonium is a perfectly stable and soluble salt.—*Rép. de Pharm.*, 1879, 227.

Pure Sulphuretted Hydrogen for Use in Toxicological Analysis.—R. OTTO recommends to prepare pure sulphuretted hydrogen from calcium sulphide, which may easily be prepared by any one by igniting calcium sulphate, or gypsum, with charcoal. The resulting calcium sulphide should be employed in somewhat large pieces, and decomposed by the slow and gradual addition of pure hydrochloric acid, whereby a steady current of pure sulphuretted hydrogen, which is even unaccompanied by free hydrogen gas, is given off.—*Ber. d. Deutsch. Chem. Ges.*, 1879, 215.

Alligator Musk.—The writer of an article descriptive of the Florida alligators, draws attention to the strong odor of musk which the alligator is capable of giving out.

"He has four glands which secrete this musk, two on the lower part of the head immediately under the throat, and two more, one on each side of the vent. This musk is a thick whitish-yellow fluid, and is precisely in odor like the musk sold by our perfumers. In stirring up a nest of alligators, one is often reminded of an apothecary's shop."—*Scient. Am. Suppl.*, May 24th.

The Lalatpur Betel Gardens.—Among the numerous betel chewers of India, certain varieties of betel are preferred to all others. The most esteemed is that produced at Pâlî, in the district of Lalatpur in Bundelkhand, where betel gardens are the most extensive, covering an area of twenty-one acres, of which nine are revenue-free. From 1860 up to the so-called twenty years' settlement, they were held under direct management, owing to their having belonged to the rebel Rao Hamîr Singh, whose estates were confiscated. The average gross annual collections amount to 700 rupees.* The produce of these gardens is renowned, and it forms one of the few articles exported from the district. The cultivation resembles that of similar gardens elsewhere. Betel requires great care, with abundance of water and manure. The cultivators are called Barehs or Tamolis, the betel garden being known as a *barehja*. It is inclosed on all sides with matting and bamboos, the latter being procurable in abundance in the Bâlâbahat jungles. The Barehs pay their rent through a head man of their own. There are also betel gardens at Bânpur.

A New Preserving Agent. (H. JANNARCH.)—In the course of a series of experiments made for devising a method of separating the crystallizable sugar from the molasses, a double salt of borate of potassium and sodium was accidentally formed, which exerted an antiseptic influence on the sugar. Further experiment showed this salt to be a most powerful antiseptic agent. It is now being made in larger quantities by dissolving in water equal parts of chloride of potassium, nitrate of sodium, and boric acid, and evaporating to dryness after filtering. The salt obtained is, of course, not a pure borate, but a mixture of potassio-nitric borate, potassium nitrate, and sodium chloride. Its action is very prompt and continues undiminished for a long time. It has no injurious effect either as regards taste or smell or healthiness of the substances impregnated with it. It is easily soluble in water, and quite deliquescent, so that it has to be kept in closely stoppered bottles. It is at present sold for 25 cents a pound.—*Deutsche Gew. Zeit.* in *Scient. Amer.*

Oil of Eucalyptus as a Solvent.—It may not, perhaps, be generally known how powerful a solvent eucalyptus oil (usually prepared from *E. oleosa*) is. The following substances are soluble in this oil, their greater solubility being indicated by their position in the list: camphor, pine resins, mastich, elemi, sandarac, kauri resin, dammar, asphalt, Botany Bay gum, dragon's blood, benzoin, copal, amber, anime, shellac, caoutchouc and wax, but not gutta percha. A ton of the fresh foliage of *E. Globulus* is stated to yield 8½ lbs. of pearlash, while the fresh wood yields 2¼ lbs.—*Chem. News*, April 18th.

Danger of Mixing Chloride of Lime and Sal Ammoniac.—Attention has been called by Salzer to the danger of mixing sal ammoniac and bleaching powder together. When equal portions of these two chemicals in the state of powder are shaken together, copious fumes of a spontaneously inflammable gas are liberated, which appear to be hypochlorite of ammonium.—*Pharm. Jour.*, April 26th.

Scandium, a new Element.—F. L. NILSON has succeeded in separating from the ytterbium-group of earthy metals a new one, which, although not yet obtained in a pure state, has nevertheless been shown to be a new element by its spectrum diviating from that of all other known bodies. The author proposes for it the name *Scandium*, since it occurs in the mineral gadolinite or euxenite, which are only found in the Scandinavian peninsula.—*Ber. d. Deutsch. Chem. Ges.*, 1879, 554.

* 1 Rupee=2 shillings.

BIBLIOGRAPHY.

REPORT ON THE EXHIBITS CONNECTED WITH MATERIA MEDICA, PHARMACY, CHEMICAL INDUSTRY, etc., in the Paris Exhibition. By B. H. PAUL, PH.D.; E. M. HOLMES, F.L.S., and F. PASSMORE. Reprinted from the *Pharmaceutical Journal*, pp. 198, 12mo. London, 1878. Privately printed.

WE have in former numbers of NEW REMEDIES published portions of this interesting report. It is not capable of being much condensed and is full of interesting material. It is a creditable piece of work for its authors, and for the journal which first published it, but it is a matter for much regret that it has no index.

A GUIDE TO THE QUALITATIVE AND QUANTITATIVE ANALYSIS OF THE URINE, Designed for Physicians, Chemists, and Pharmacists. By DR. C. NEUBAUER and DR. J. VOGEL, with a preface by PROF. DR. R. FRESENIUS. Translated from the Seventh Enlarged and Revised German Edition by ELDRIDGE G. CUTTER, M.D. Revised by EDWARD S. WOOD, M.D. New York: William Wood & Co., 1879, 8vo, pp. 551.

FOR a long time there has been a need for a work in the English language which should more completely treat of the subject of urinary analysis, than would be possible in the handy-books which, from time to time, have appeared, and which could embrace only the most salient and essential points. The exhaustive character of this volume, and the care with which it has evidently been prepared for publication here, can leave little to be desired for some time to come.

The publishers call especial attention to the cow-skin binding, which resembles somewhat a red Russia leather, and which they have here as a trial of its merits. It certainly is a most sumptuous piece of work, and should it prove to be equally durable, it will be a very considerable improvement upon the styles of binding heretofore adopted.

SPERMATORRHŒA: Its Causes, Symptoms, Results, and Treatment. By ROBERTS BARTHOLOW, A.M., M.D., etc. Fourth Edition, Revised. New York: William Wood & Co., 1879, 8vo, pp. 128.

THIS work has already become so well known that its reputation is almost classic. Bartholow's writings are characterized by thoroughness and clearness, and this is no exception.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON, M.D. Edin., etc. Second American Edition, Revised by the Author. Enlarged and Adapted to the U. S. Pharmacopœia by FRANK WOODBURY, M.D. Philadelphia: Henry C. Lea, 1879.

IT is only a very short time since the first edition of this manual appeared, when we commented on its value and the original features which had entered into its construction. It is a pleasure to think that the rapidity with which a second edition is demanded may be taken as an indication that the sense of appreciation of the value of reliable information regarding the use of remedies is not entirely overwhelmed in the cultivation of pathological studies, characteristic of the present day. This work certainly merits the success it has so quickly achieved.

HEARING AND HOW TO KEEP IT. By CHARLES H. BURNETT, M.D. Philadelphia: Lindsay & Blakiston, 1879, pp. 152. $0.50.

THIS is the first of a series of "Health Primers," which is to be published by this house under the editorship of W. W. Keen, M.D. It is by the leading otologist of Philadelphia, and is intended, as the other and succeeding volumes will be, for popular use. Much that is likely to be of interest or practical value is contained in the book, although, as might be expected of a practitioner in a special branch, certain evils and the importance of some measures, to a less biased reader, appear somewhat overmagnified.

HALL & BENJAMIN'S COMPLETE CATALOGUE OF CHEMICAL AND PHYSICAL APPARATUS, CHEMICALS, ETC. New York: 1879, Roy. 8vo, pp. 203.

THIS is a very complete and carefully made catalogue, having, besides the general list, several supplementary ones of apparatus especially adapted for laboratories, schools, etc., and of chemicals, and an index for easy reference. It is elaborately illustrated and handsomely published.

POSOLOGICAL TABLE: including all the Officinal and the most Frequently Employed Unofficinal Preparations. By CHARLES RICE, Chemist, Department of Public Charities and Correction, N. Y., etc. Revised and approved by Members of the Medical Boards of Bellevue and Charity Hospitals. New York: William Wood & Co., 1879, 12mo, pp. 96.

IN view of the labor and difficuly which attend the making of a reliable guide of this nature, this manual will be found very complete and satisfactory. By the use of carefully selected abbreviations, a very large amount of information, desirable for ready reference, has been included, so that its simple title is but partially descriptive of the nature of the work.

NOTES ON THE TREATMENT OF SKIN DISEASES. By ROBERT LIVEING, A.M., M.D. Fourth Edition, Revised and Enlarged. New York: William Wood & Co., 1878.

NOT many alterations, besides those of classification, have been made since the preceding edition, but an index has been added which renders the book decidedly more valuable.

PRACTICAL INSTRUCTION IN ANIMAL MAGNETISM. By J. P. F. DELEUZE. Translated by THOMAS C. HARTSHORN. New York: Samuel R. Wells & Co., 737 Broadway, 1879, 8vo, pp. 524. No index.

THE writings of Mr. Deleuze partake as little of the mystical character, usually common to the literature of animal magnetism, as anything we have seen, and those who have a desire to become familiar with the subject will probably find this to be the best available guide.

THE LAWS OF THERAPEUTICS; OR, THE SCIENCE AND ART OF MEDICINE. By JOSEPH KIDD M.D. Philadelphia: Lindsay & Blakiston, 1879. pp. 196.

DR. KIDD'S book, though open to criticism in many respects, is capable of awakening much valuable reflection, and it will be a profitable book to take as a travelling companion this summer, by doctors who are to have a few days' leisure and time to read. He reviews, in course, some of the therapeutical theories which have been most prominent and advances opinions, cites cases, and mentions facts enough to form the basis for a much larger volume.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS. Designed as a Manual for Practitioners and Students. By AMBROSE L. RANNEY, A.M., M.D., etc. New York: William Wood & Co., 1879, 8vo, pp. 386.

DR. RANNEY has for several years had a large experience as a private tutor, and this work has undoubtedly grown out of the requirements of his classes. It shows a considerable amount of research among the writings of the numerous authorities on surgical topics, and will unquestionably serve to lessen the labors of those whose time and opportunities will not permit them to go over the same ground for information upon this subject.

ON DISEASES OF THE ABDOMEN, Comprising those of the Stomach and other parts of the Alimentary Canal, Œsophagus, Cæcum, Intestines, and Peritoneum. By S. O. HABERSHON, M.D., etc. With Illustrations. Second American, from the Third Enlarged and Revised English Edition. Philadelphia: Henry C. Lea, 1879, 8vo, pp. 554.

IN consideration of the fact that disturbances of the digestive organs are among the most common and troublesome with which we meet, it is remarkable that so fews works, comparatively, have been written upon them, and so few have made a special study of them. It is not unlikely

that to practice successfully in this branch of medicine requires more acumen and care-taking, and greater facility of resources than are demanded in other branches where methods of physical diagnosis are more available. When, therefore, a work of the character of this one appears from an observer so acute as Dr. Habershon, it should find many readers. Especially should this be the case now, since the work has been some time out of print, and has undergone thorough and careful revision at the hands of its author.

A CLINICAL TREATISE ON DISEASES OF THE LIVER. By DR. FRIED. THEOD. FRERICHS, Professor of Clinical Medicine in the University of Berlin, etc. In Three Volumes. Translated by CHARLES MURCHISON, M.D., F.R.C.P., etc. New York: William Wood & Co., 1879.

THESE three volumes form the third, fourth, and fifth of the series of "Wood's Library of Standard Medical Authors," and rival, in their importance, the first of the series on "Rest and Pain," by Hilton. The fame of both the author and translator are too well established to require any indorsement, and the action of the publishers in placing so valuable a work, at so small a price, within the reach of the profession will undoubtedly give much satisfaction.

HAND-BOOK OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT AND NASAL CAVITIES. By CARL SEILER, M.D. With thirty-five illustrations. Philadelphia: Henry C. Lea, 1879, 12mo, pp. 158.

THE practical nature of this manual is very noteworthy, and will enable it to compete very successfully with the number of similar manuals which have recently appeared, and which are chiefly from abroad.

DISEASES OF THE THROAT AND NASAL PASSAGES. A Guide to Diagnosis and Treatment of Affections of the Pharynx, Œsophagus, Trachea, Larynx, and Nares. By J. SOLIS COHEN, M.D. Second Edition. Revised and Amended, with 208 illustrations. New York: William Wood & Co., 1879. 8vo, pp. 742.

THE growth in this country of this branch of medical science has at length required the production of something more complete than a mere hand-book, to serve the occasional needs of a general practitioner, but which fails to give a reasonably exhaustive review of the ground which has been gone over and the work which has been done to bring our knowledge of affections of the upper air passages to their present state. In view of the completeness, at the time of publication of the first edition, there could hardly be any one more capable than Dr. Cohen of making a treatise which should supply the text-book now demanded. An examination of this second edition will show that it is practically a new work.

A few words may well be said respecting the clear typography, excellent paper, and elegant binding which characterize the volume.

PRICES CURRENT OF DRUGS AND DRUGGISTS' SUNDRIES, Chemicals, Proprietary Medicines, Paints, Oils, Glass, etc. Lord, Stoutenburgh & Co., 86 Wabash Ave., Chicago, 1879. 8vo, pp. 248.

THIS is a comprehensive and handsome catalogue, and is very creditable to its well-known publishers.

DEMONSTRATIONS OF ANATOMY. Being a Guide to the Knowledge of the Human Body by Dissection. By GEORGE VINER ELLIS, Emeritus Professor of Anatomy in University College, London. From the Eighth and revised English Edition. Illustrated by 249 Engravings on Wood. Philadelphia: Henry C. Lea, 1879, 8vo, pp. 716.

HOWEVER valuable or necessary systematic works on anatomy may be, the student and surgeon can no more dispense with works which treat of anatomy from a regional standpoint, than a student of geography can hope to learn this science from a geological treatise. Indeed, after a knowledge of the structure of various tissues has been learned, it is much better and easier, to our mind, to learn anatomy in a regional way, and there is no question that, so far as future usefulness is concerned, it is of all ways the most practical. This book has so long been known as a reliable guide that no recommendation is required for this new and revised edition.

HINTS ON THE OBSTETRIC PROCEDURE. By WILLIAM B. ATKINSON, A.M., M.D., etc. Philadelphia: D. G. Brinton, 1879.

THE practice of obstetrics requires, in an eminent degree, readiness to meet emergencies, good judgment, and coolness of intellect. In men thus gifted its pursuit is attended with success and profit, but for others it is a constant trial until experience has taught them wisdom, or necessity has made them callous. For those who lack such experience a little work of this nature may supply wisdom which is only to be acquired from the ordinary text-books after much reading and trouble, and will lead him to avoid on the one hand too much interference, or on the other, delaying assistance which Nature requires.

SUPPLEMENT TO THE JOURNAL OF MATERIA MEDICA. Containing a brief summary of the action and uses of the principal articles of the Materia Medica, including their doses, most important contra-indications, incompatibles and antidotes, together with the analysis of the principal mineral waters of Europe and the United States, and formulæ for dietetic preparations, etc. New Lebanon, N. Y.: Tilden & Co., 1879, 8vo, pp. 145.

THE title sufficiently indicates the scope of the work, and we need only to say that it will be found to be a valuable source of information.

WOOLSON & CO.'S DESCRIPTIVE CATALOGUE OF HARDY PERENNIAL PLANTS, AND PRICE-LIST. Spring and Fall of 1879. Passaic, N. J., P. O. Box 180.

WE have several times had letters asking where certain growing medicinal plants could be obtained, and have had difficulty in giving an answer likely to satisfy our inquirers. We are pleased, therefore, to note the fact that the firm who publish this catalogue have a very considerable number of plants having medicinal properties, in addition to many others belonging to the species of which they make a specialty. Since the receipt of this catalogue we have been indebted to it for valuable information not readily obtainable elsewhere.

PROCEEDINGS OF THE NEW HAMPSHIRE PHARM. ASSOCIATION at the Fifth Annual Meeting, held in Concord, Oct. 8th, 1878.

CENTENNIAL MAP OF THE UNITED STATES.

THE largest and best map of the United States and Territories, compiled from the official surveys, under the direction of the Committee on Public Lands, House of Representatives, by Col. W. L. Woods, is now ready. The scale is 20 miles to the inch. It is published by Julius Bien, N. Y.

Dr. Adolf Gubler, Professor of Therapeutics at the Ecole de Médecine, and member of the Academie de Médecine at Paris, one of the most highly esteemed representatives of the French medical profession, died of cancer of the stomach at Toulon, in the last week of April, aged 57 years.

Dorvault's Successor.—The general convention of shareholders in the Pharmacie Centrale de France, at Paris, has chosen Mr. Emile Génevoix, the president of the Association générale des Pharmacien, as successor of the late Mr. Dorvault, in the office of Director of the establishment.

Burning of a Chemical Manufactory.—The chemical factory of Martin Kalbfleisch's Sons, in Brooklyn, was recently partly burned, causing an estimated loss of over $25,000. The fire is supposed to have originated spontaneously.

Cubebs in Whooping-Cough.—DR. M. SANCHEZ has obtained rapid cures in cases of whooping-cough by the administration of an ethereal tincture of cubebs in doses of four or five drops three times a day.—*Med. Times*, from *Gaceta Med.* of Havana.

NOTES, QUERIES AND ANSWERS.

[Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

Marine Glue.—Another receipt for making marine glue, besides the one given on page 184, is as follows: Dissolve 1 part of India-rubber in 12 parts of benzole, and to the solution add 20 parts of powdered shellac, heating the mixture *cautiously* over the fire. Apply with a brush. This is much used in the construction of galvanic batteries.

Compound Wine of Iron and Calisaya.—One of our correspondents sends us the following formula, which, he says, is "far superior to any or all elixirs as a general tonic:"

Cinchona bark, Calisaya,	
Gentian root,	
Fresh hops,	
Dandelion root,	
Wild cherry bark,	
Dogwood bark (Cornus Florida)	āā 4 ℥.
Orange peel,	
Cinnamon	āā 1 ℥.

Grind to a coarse powder, mix intimately, moisten with Sherry wine and glycerin (equal parts), pack in a percolator, and pour enough best Sherry wine on top to obtain 1 quart of percolate. Then add, previously dissolved in hot water,

Pyrophosphate of iron ½ ℥,

and mix the whole together.

No. 576.—**Excipient for Quinia Pills** (N.).

One of the best excipients, and one which is very commonly used, is a mass made with tartaric acid, water, and flour. The usual proportions are,

Tartaric acid	120 grains.
Fine wheat flour	60 "
Water	5 drops.

This quantity is sufficient to make a pill mass with 1 troy ounce of sulphate of quinia. Care must be taken lest more water be added than is absolutely necessary, as an excess will produce too soft a mass, which would eventually flatten out.

Instead of the above mixture you may also use the glycerate of starch, an improved formula for which you will find elsewhere in this number.

No. 577.—**Damiana** (N.).

This is usually administered in form of fluid extract, of which the dose is stated to be from 1 to 2 fl. ℥. Or else, in form of infusion, made in the strength of 2 ℥ of the leaves to 1 pint of hot water; dose 1 to two fl. ℥. Owing to the bulk of the crude drug, it cannot well be given either in powder or in pill form. We have no positive knowledge as to its efficacy.

No. 578.—**Baking Powder** (N.).

Good baking powder, which consists of either cream of tartar or tartaric acid, thoroughly dried, and bicarbonate of sodium, likewise dried, and mixed with pure farina or starch, can be kept in bulk only if it is thoroughly protected from moisture. Exposure to air alone would under ordinary circumstances not injure it, but as there is always more or less dampness in the atmosphere, it is much preferable to keep it in small, air-tight packages. Manufacturers of the articles always put it up in this way.

There are many formulæ for making baking powder, for instance:

Bicarbonate of sodium, dried	12 parts.
Tartaric acid, dried	8 "
Starch	12 "

In this formula the quantity of acid is not sufficient to neutralize all the soda; it requires 150 parts of tartaric acid ($H_2C_4H_4O_6=150$) to neutralize 168 parts of sodium bicarbonate ($2NaHCO_3=168$; tartaric acid being a *bibasic* acid, it requires two molecules of the carbonate of sodium for neutralization). Hence an improvement would be to increase the amount of tartaric acid to 10.7 parts or thereabouts. Cream of tartar is not so advantageous, because only one-half of its acid is available to decompose the bicarbonate.

The substances which have at one time or another been reported as improper constituents of baking powder are quite numerous; leaving aside *alum*, which is an altogether objectionable and hurtful ingredient, or traces of *copper*, in form of sulphate, which is sometimes used to improve the color of the bread, we know that salts of lime, in form of carbonate and even sulphate (gypsum) occur in some varieties.

No. 579.—**Fly-Papers** (M.).

Sticky or adhesive fly-papers are to be discouraged, as it is a cruelty to subject even flies to the long struggles and slow death caused by it. Such papers, however, are occasionally sold, and are prepared by coating paper with factitious bird-lime. Or the bird-lime is smeared upon wooden sticks standing in a base, for instance, a flower-pot, when they will adhere to it. A better plan is to mix some poison with the adhesive mass, but care should be taken lest children get at it. Cooley gives the following formula: Treacle, honey, or moist sugar mixed with about $\frac{1}{12}$ of their weight of orpiment (yellow tersulphide of arsenic). Redwood's formula is: Small quassia chips ¼ oz.; water, 1 pint; boil 10 minutes, strain, and add 4 oz. of treacle. "Flies will drink this with avidity, and are soon destroyed by it."

No. 580.—**Borate of Manganese** (S.).

This substance, which is used as a rapid dryer for paints, is insoluble or only very difficultly soluble in water. It is decomposed almost instantly by warm water, even when this is acidulated with boracic acid; in the cold, the decomposition is more gradual (*Gorgen*). It is soluble in an aqueous solution of sulphate of magnesium.

If it is in combination with oils, the latter may be separated according to the method given on page 306 of our volume for 1877, in a paper by Mr. Alb. A. Hallock, namely: To 3 grams of the ground paint, in a large test-tube, add a mixture of one volume of ordinary ether and two volumes of alcohol. Agitate briskly several times, allow the paint to settle, and decant the liquid into an evaporating dish. Repeat until all the oil is removed. This may be determined by adding water to the paint in the test-tube and agitating. If oil is still present, the paint sticks to the sides of the tube, if not, it settles easily. In the former case, the residue is first treated with alcohol, before the real solvent (ether + alcohol) is again added.

The manganese in the residue, provided qualitative examination has shown that only this metal is present, is best determined by dissolving the borate of manganese in hydrochloric acid and water at a heat, nearly boiling, in a *large* dish, and adding, drop by drop, sodium carbonate in excess. After boiling a few minutes, allow to settle, decant, boil three times more with water, decanting each time; then transfer the precipitate to a filter, wash completely with water, dry, and ignite under proper precautions. This method precipitates the manganese as carbonate, and the residue left after ignition is manganoso-manganic oxide (Mn_3O_4 or $MnO.Mn_2O_3$); 100 parts of this correspond to 47.6 parts of manganese borate.

No. 581.—**Indelible Nigrosine Ink** (Th.).

On page 337 of our last volume we gave an abstract of a paper by *E. Stoermer* (read thus, instead of Stoemer),

on a nigrosine ink which will resist washing off, or in other words, which will be fixed to the paper. This author stated that he obtained the best results with a Belgian nigrosine, called *Noir perfectionné*, by adding to it aluminium acetate. We have written to the author and received his answer on Nov. 6th, 1878. His reply will furnish information to our correspondent, who desires to know where this can be had; hence we translate it here:

"I have secured the sole right of sale of the *Noir perfectionné* for the Continent. It may be obtained from me at 30 marks ($7.20) per kilo (2⅛ lb.), from which there would be a deduction of about 2 marks (48 cents) to offset the cost of carriage. On receipt of order, I will send any quantity, *accompanied by exact directions.*

"E. STOERMER, Breslau, Germany."

No. 582.—**Hair-Restoratives and Hair-Dyes** (N.).

There is a great difference between these, as their name implies. Hair-restoratives are intended to cleanse the scalp, to supply it with moisture, and to stimulate the roots of the hair, to promote their growth. Hair-dyes are substances employed in a liquid form to alter the color of the hair. If carefully applied they are not injurious: even lead salts and nitrate of silver *may* be used without risk of danger, provided the scalp is sound, and the solution be applied only to the hair. Incautious use of such solutions has, however, not infrequently resulted in symptoms of lead palsy; hence great care should be exercised, and we do not advise their use.

No. 583.—**Tincture of Ginger** (Subscriber).

The formulæ of the pharmacopœias differ as to the strength of the tincture.

The *U. S. Ph.* directs 8 troy ounces to be percolated with alcohol, spec. gr. 0.835 or 89%, until 2 pints of tincture are obtained.

The *Germ. Ph.* directs one part of ginger to be macerated with 5 parts of alcohol, spec. gr. 0.893, or 69%.

The *French Ph.*: 1 part of ginger to be macerated with 5 parts of alcohol, spec. gr. 0.863, or 80%.

The *Brit. Ph.*: 2½ avoird. ounces of ginger to be macerated and percolated with alcohol, spec. gr. 0.838, or 88%, until 8 fl. oz. are obtained.

No. 584.—**Pilulæ Æternæ and Pocula Emetica** (H.).

These are obsolete antimonials and have long been out of use. The former, which were called either *pilulæ aternæ* (eternal pills), or *pilulæ perpetuæ* (perpetual pills), were globules of metallic antimony, which were swallowed for the purpose of producing easy digestion or loose bowels; but they were carefully collected after passing through the body, thoroughly washed, and preserved for future use. We do not remember who first introduced them; but it must have been either Basil Valentine (end of the 15th century), or one of his followers in antimonial lore. The *pocula emetica* (emetic cups) or *calices vomitorii* (same) were metallic cups made of antimony (and tin, according to Casp. Neumann, Prælectiones Chemicæ, Berlin, 1740, p. 473), in which acid wine was kept for about 12 hours (over night), which was then drank and acted as an emetic. These cups sometimes had, in Germany, the inscription, "Du bist ein Wunder der Natur, und aller Menschen sichere Kur" (thou art a wonder of nature, and a certain cure for all men). Your drawing is exactly as we remember having seen it ourselves. But we cannot remember the origin.

No. 585.—**Birch Beer** (Y., Troy, N. Y.).

The following formula has been furnished us by one of our contributors:

Take of black birch bark (*Betula lenta*) 1 pound; boil it twice successively with 1 gallon of water, and evaporate the liquid to a semi-fluid extract. Then boil 12 ounces of hops and 8 ounces each of pimento and ginger in 3 gallons of water for 15 minutes, add the above extract, boil for 5 minutes, and finally add 6 quarts of golden syrup and 20 gallons of water. When the liquid has commenced to cool, but is still somewhat warm, add 1 pint of best yeast. Allow it to stand for 24 hours to ferment; then strain through several thicknesses of flannel, bottle securely, and keep in a cool place.

No. 586.—**Fusible Metal** (J.).

Under the names Fusible Metal or Fusible Alloy is understood a mixture of metals which becomes liquid at temperatures at or below the boiling point of water. There are several such mixtures known, namely:

1. *D'Arcet's:* Bismuth, 8; lead, 5; tin, 3 parts. This melts below 212° F.

2. *Walker's:* Bismuth, 8; tin, 4; lead, 5 parts; antimony, 1 part. The metals should be repeatedly melted and poured into drops, until they can be well mixed previous to fusing them together.

3. *Onion's:* Lead, 3; tin, 2; bismuth, 5 parts. Melts at 197° F.

4. If, to the latter, after removing it from the fire, one part of warm quicksilver be added, it will remain liquid at 170° F., and become a firm solid only at 140° F.

5. *Another:* Bismuth, 2; lead, 5; tin, 3 parts. Melts in boiling water.

Nos. 1, 2, 3, and 5 are used to make toy-spoons to surprise children by their melting in hot liquors. A little mercury (as in 4) may be added to lower their melting-points. Nos. 1 and 2 are specially adapted for making electrotype moulds. French clichée moulds are made with the alloy No. 2. These alloys are also used to form pencils for writing, also as *metal-baths* in the laboratory, or for soft-soldering joints. No. 4 is also used for anatomical injections.

Higher temperatures, for *metal-baths* in laboratories, may be obtained by the following mixtures:

1 part tin and 2 parts lead melt at 441.5° F.
1 " " " 1 part " " " 371.7° F.
2 parts " " 1 " " " " 340° F.
63 " " " 37 parts " " " 344.7° F.

No. 587.—**Salt-water Soap** (B., Maryland).

Manin's salt-water soap is probably the most easily prepared. Its composition is follows: 40 parts of fat or oil and 10 parts of resin are saponified in the usual manner with an excess of alkali, and a solution of 40 parts of glue in a solution of 1 part of potassium oxalate is then added. The mixture is well stirred at 50–60° C. (122°–140° F.). When cold, the soap has the appearance of ordinary soap, but is completely soluble in salt-water. If potash be used instead of soda for saponification, a soft soap will be the result.

No. 588.—**Simpson's Solution of Ergotine** (S. H.).

This is the formula:

Ergotine..... .....30 grm.
Chloral hydrate..... 5 "
Distilled water..... .....90 min.

For hypodermic injection.

No. 589.—**Guava** (P.).

The Guava tree—*Psidium Gujava* Raddi = *Psidium pomiferum* et *pyriferum* L.; *Psidium sapidissimum* Jacq.; nat. fam. Myrtaceæ—is a native of South America and the West Indies. It is also much cultivated there, as well as in Southern Asia. The savory fruit, of the size of an apple, is highly relished, and is eaten raw as well as prepared in different fashions. In form of concentrated confection ("Dulce or Juba de Guajava," Guava Jelly), they constitute an article of trade. Before ripening they are bitter and astringent, and are much used as a remedy in diarrhœa and dysentery. The bark of the root and leaves were formerly used, and with much apparent success, in chronic infantile diarrhœa, in form of decoction made with ½ oz. of the bark of the root and 6 oz. of water, boiled down to 3 oz., of which one or more teaspoonfuls were given three or four times a day. The young buds have been employed for gargles in tonsillitis, etc., and the juice of the young stems as clarifying agent for sugar.

No. 590.—**Sap-Green** (W. J.).

This is an innocuous coloring matter, and may be used for coloring confectionery. It is also largely used by artists as a water-color. It is prepared from the berries of *Rhamnus cathartica* L. (Purging Buckthorn), gathered

at the beginning of September, before they are fully ripe. The green berries are first boiled a few hours in sufficient water to cover them, then pressed. The juice is allowed to clarify by standing a few hours, then filtered through flannel, and evaporated in a bright copper boiler to the consistence of honey. A little powdered alum (about one ounce for every pound of the mass) is now added, under constant stirring, to the thick liquid, and the evaporation continued until a skin begins to form on the surface. But since the mass by this time has acquired a yellowish-brown tint, a solution of indigo-carmine [see June number, p. 185; also vol. for 1877, p. 183] is added in drops, which causes the yellow color to disappear and the mass to assume a pure green color. By varying the amount of indigo-carmine, a variety of shades may be produced. The evaporation is now continued, until a drop or two placed on a cold surface ceases to impart color to the dry hand, when the mass is transferred into clean sausage-guts, which are hung up to dry. Or it may be preserved as a liquid in hermetically-sealed glass or porcelain jars.

No. 591.—**Blue Colors soluble in Oils** (B.).

Most blue dye-stuffs are insoluble in oils, and only form mechanical mixtures when ground with the latter. According to Bareswil, however, a dark-blue color which is soluble in oils, fats, and in alcohol may be obtained by melting together 16 parts of aloetic acid and 3.333 parts of resin. Aloetic acid is prepared by *carefully* treating aloe (best Barbadoes aloes, or still better, barbaloïn) with nitric acid.

No. 592.—**Hypodermic Injection of Quinia** (McC.).

Bernatzick's solution is prepared as follows:

Quinia sulphate	10	parts (by weight).
Hydrochloric acid	3.5	"
Water	16 5	"

Or,

Quinia hydrochlorate (muriate)	5	parts.
Hydrochloric acid	2	"
Water	8	"

Either of these solutions may be used, when larger quantities of quinia are to be administered hypodermically.

Other solutions are:

Quinia bisulphate	1 part.
Water	11 parts.

In painful neuralgia, the following is recommended:

Quinia sulphate	10 parts.
Morphia hydrochlorate (muriate)	1 part.
Hydrochloric acid, dilute	7 parts.
Water, sufficient to make	40 "

An ethereal solution of quinia (alkaloid) has likewise been used with success. It is prepared by dissolving a given amount of quinia sulphate in water, with the aid of dilute sulphuric acid, say in a large test-tube, cooling the latter, pouring ether on top of the other solution, then adding enough ammonia to separate all the quinia, which on shaking will dissolve in the ether. The ethereal solution is then poured off, and evaporated until 3 minims represent 1 grain of sulphate of quinia originally used, or, if preferred, until 3 minims contain 1 grain of the alkaloid quinia.

Bernatzick remarks on the hypodermic use of quinia, that it is admissible only in exceptional cases as in sunstroke (according to Dr. R. Hall). In ordinary cases its repetition annoys the patient, and is very apt to produce inflammation and gangrenous abscess, particularly when large doses or concentrated solutions are used. It is true that the fever-attacks are arrested by it, and it is of great service, sometimes, in warding off attack of so-called 'congestive chills," but the cachexia is seldom completely removed, and the paroxysms may soon recur again. This method is, therefore, rather expensive for hospitals, as it results in the necessity for prolonging the treatment of a patient.

Hager recommends the following solution:

Quinia sulphate	1 or 2 or 3 or 4 parts.
Alcohol	10 "
Water	90 "

Add the quinia salt to the mixed alcohol and water, shake several times and add, at intervals of half an hour, one to two drops of dilute sulphuric acid, until *almost* complete solution has taken place, then filter. Only the least possible amount of acid should be taken.

Coste recommends the sulphovinate of quinia, which is soluble in three parts of water.

Collier uses kinate of quinia. He prepares it by converting calcium kinate into barium kinate, and this, by double decomposition with quinia sulphate, into barium sulphate and quinia kinate. The latter is soluble in four parts of water.

Drygin proposed to use a peculiar new compound salt, the "bimuriate of quinia and urea" for hypodermic solution. This is soluble in its *own* weight of water. See NEW REMEDIES, 1878, p. 334.

The bromhydrate of quinia (neutral), which is soluble in seven parts of water, has also been recommended.

No. 593.—**Fumigating Pastilles** (V.).

There are usually two kinds, black and red. They are made after the following formulæ:

1. *Black pastilles.*

Animal charcoal	100 parts.
Gum benzoin	100 "
Balsam of Tolu	50 "
Storax (Styrax calamita)	50 "
Gum olibanum	50 "
Cascarilla bark	200 "
Cloves	40 "
Cinnamon (Ceylon)	40 "
Potassium nitrate	45 "

Reduce the ingredients to powder, and mix them with

Oil of Ceylon cinnamon	5 parts.
Oil of cloves	5 "
Oil of lavender	5 "
Balsam of Peru	10 "
Camphor, powdered	1 part.

Then add

Mucilage of tragacanth ..... sufficient

to make a mass which is to be formed into conical cylinders about ¾ to 1 inch high, and ending at the bottom in three projections. Dry them in a warm place, sprinkle over them a mixture of oil of bergamot and oil of pelargonium, and preserve them in tinned iron vessels.

2. *Red Pastilles.* Substitute in the preceding formula powdered red saunders wood for animal charcoal.

No. 594.—**Ozonized Ether** (Subscriber).

This is a solution of peroxide of hydrogen in ether, originally proposed by Dr. Richardson. It is kept in stock by Messrs. Eimer & Amend, 205–209 Third ave., N. Y.

No. 595.—**Gurjun Balsam** (S. H.).

This is a balsam obtained from different species of *Dipterocarpus*, natives of Eastern Bengal, Burma, Siam, the Malay Peninsula, Ceylon, Java, the Philippine Islands, etc. It is obtained by making deep incisions into the trunk of the tree with an axe, so as to scoop out a good-sized cavity. In this fire is placed, and kept burning until the wood is somewhat scorched, when the balsam begins to exude and it is then led into a vessel of bamboo. It is afterwards allowed to settle, when a clear liquid separates from a thick portion. The oil is extracted year after year, and sometimes there are two or three holes in the same tree. It is produced in extraordinary abundance; from thirty to forty gallons, according to Roxburgh, may sometimes be obtained from a single tree in the course of the season (See *Flückiger and Hanbury, Pharmacographia*, p. 82).

The balsam is also called Wood Oil, but the latter term is likewise applied to the oil of the seeds of *Aleurites triloba* Müll. Arg., from which it is totally different. Gurjun balsam is really an oleo-resin, since it yields, on

distillation, a volatile oil, and leaves a resin behind (about 37%), which contains a small proportion of a crystallizable acid, termed gurjunic acid.

Gurjun balsam is used for the same purposes as Copaiva. It has a bitter aromatic taste, being less acrid than copaiva, and has an odor resembling the latter, but less intense. The balsam itself, as well as the essential oil and the resin, are used in the same doses as copaiva.

The following are a number of formulas for preparing it for administration.

1. Gurjun balsam ....4 grams.
   Gum arabic, powd... .....4 "
   Infusion of Star anise.....40 "

Take this mixture in two doses, one before each meal (*Vidal*).

2. Gurjun balsam.... .....16 grams.
   Gum arabic, powd.....10 "
   Syrup of acacia .....30 "
   Peppermint water.....50 "

Take in three doses in the course of the day (*Mauriac*).

3. Gurjun balsam .....10 grams.
   Cubebs, powdered.....sufficient

to make, with mucilage, 30 boluses which are to be rolled in carbonate of magnesium (*Bernatzick*).

No. 596.—**Patent Medicine Formulæ.**

We have queries from correspondents asking for the composition of: Pike's Catarrh Recipe Compound, Sanford's Liver Invigorator, Dr. Kingsley's Vegetable Asthma Specific, Hunt's Remedy for Dropsy, Coudray's Alburnine, and Dr. Shallenberger's Fever and Ague Antidote. Can any of our readers give the desired information?

No. 597.—**Detection of Salicylic Acid in Beer** (K.).

We had already written an answer to your inquiry, giving the usual methods employed for detecting salicylic acid, when we came across the following abstract of a paper by M. Blas (from *Jour. pract. Chem.* [3] 19, 43–46) in *Jour. Chem. Soc.*, which deals with the subject exclusively. We have, therefore, substituted it for our answer, reserving to ourselves further comments, should the process fail in your hands:

It is found that a quantity of salicylic acid, less than .075–0.1 gram per litre, when added to beer, cannot be detected with certainty if the ferric chloride reaction be employed, either with the original beer, or after precipitation by lead, or after treatment with animal charcoal. It is much more simple to test for the presence of the acid in the urine voided after drinking the beer, when 0.0012 per cent can with ease be detected. If 20 cc. of the urine be examined three hours after the beer has been drunk, it will be found that ferric chloride at first produces a precipitation of phosphate, but after their separation the violet reaction is distinct. For the preservation of light beers, .05 grams salicylic acid is sufficient, but 0.2 grams per litre must be added to strong beer; more than this quantity is unadvisable, as a taste is imparted to the beer; the addition of salicylic acid to beer cannot be considered to be an adulteration, as it cannot destroy any of the integral constitutents, acting only as a preservative.

To Preserve Orchids.—The *Gardener's Chronicle* states that M. Thuret, the celebrated French naturalist, has found a saturated solution of common salt to preserve orchid flowers in excellent order, even for as long as sixteen years, and to answer much better than spirits of wine. This fact cannot be too widely made known to persons dwelling in foreign countries, who might thus send home specimens of new medicinal or other plants for description. The editor of that journal recommends the use of flat bottles, and the careful arrangement of the specimens, so that it may be possible to examine them without opening the bottle.

PRESCRIPTIONS AND FORMULÆ.

Artificial Fruit Essences.—Prof. John M. Maisch publishes the following article on Artificial Fruit Essences in the *American Journal of Pharmacy* for March:

Fourteen years ago, Kletzinsky published formulas for fifteen different fruit essences which, in 1867, were republished by several journals. Several of these formulas were again produced in the last volume of the *Confectioners' Journal* without any alterations except that in the essence of apple the quantity of oxalic acid was reduced from 1 to ¼ part, and glycerin from 4 to 2 parts; in essence of raspberry, the succinic acid was entirely omitted, and essence of peach was directed to be made of 2 oz. of oil of bitter almonds, 1 oz. of acetic ether and 2 pints of alcohol, but the latter product has evidently the flavor of peach kernels accompanied by a slight fruit odor. The flavor of peach fruit may be imitated by using 5 parts each of acetic-butyric and amylacetic ethers, ½ part (or less); of methyl-salicylic ether (oil of wintergreen), 2 or 3 parts of oil of bitter almonds, and 80 or 100 parts of alcohol.

Kletzinsky's formulas for the extracts of *strawberry* and *raspberry* are much improved by adding from 20 to 10 per cent of tincture of orris root. If desired the rather acid taste of this tincture may be removed by precipitating the resin, and if solution of acetate of lead is used for this purpose the filtrate should be carefully freed from any excess of lead by sulphuretted hydrogen or by agitation with solution of sulphate of sodium, which salt, being insoluble in the alcoholic liquid, will not impart to it its peculiar saline taste. The tincture of orris may probably be conveniently replaced by an alcoholic solution of the oil of orris, which has been an article of commerce for some years past.

Since several very important errors had crept into the formulas of Kletzinsky as published in 1867, some of which are, however, readily corrected, it has been thought best to republish all the formulas from Wittstein's *Vierteljahrsschrift*, xvi., p. 268. These formulas are given in *parts by measure for* 100 *parts of alcohol*, and whenever acids are used, they are to be previously dissolved in alcohol.

Essence of Apple.—Aldehyd, 2 parts: chloroform, acetic ether, nitrous ether and oxalic acid, each 1 part; glycerin, 4 parts; amyl-valerianic ether, 10 parts.

Essence of Pear.—Acetic ether, 5 parts; amyl acetic ether and glycerin, each 2 parts.

Essence of Cherry.—Benzoic ether, acetic ether, each 5 parts; glycerin, 3 parts; œnanthic ether and benzoic acid, each 1 part.

Essence of Black Cherry.—Benzoic ether, 5 parts; acetic ether, 10 parts; oil of perisco (peach kernels) and benzoic acid, each 2 parts; oxalic acid, 1 part.

Essence of Peach.—Formic ether, valerianic ether, butyric ether, acetic ether, glycerin and oil of perisco, each 5 parts; aldehyd and amylic alcohol, each 2 parts; sebacylic ether, 1 part.

Essence of Apricot.—Butyric ether, 10 parts; valerianic ether, 5 parts; glycerin, 4 parts; amylic alcohol, 2 parts; amyl-butyric ether, chloroform, œnanthic ether, and tartaric acid, each 1 part.

Essence of Plum.—Glycerin, 8 parts; acetic ether and aldehyd, each 5 parts; oil of perisco, 4 parts; butyric ether, 2 parts, and formic ether, 1 part.

Essence of Grape.—Œnanthic ether, glycerin, each 10 parts; tartaric acid, 5 parts; succinic acid, 3 parts; aldehyd, chloroform and formic ether, each 2 parts, and methyl salicylic ether, 1 part.

Essence of Currant.—Acetic ether, tartaric acid, each 5 parts; benzoic acid, succinic acid, benzoic ether, aldehyd, and œnanthic acid, each 1 part.

Essence of Strawberry.—Butyric ether and acetic ether, each 5 parts; amyl-acetic ether, 3 parts; amyl-butyric ether and glycerin, each 2 parts; formic ether, nitrous ether and methyl-salicylic ether, each one part.

Essence of Raspberry.—Acetic ether and tartaric acid, each 5 parts; glycerin, 4 parts; aldehyd, formic ether, benzoic ether, butyric ether, amyl-butyric ether, acetic ether, œnanthic ether, methyl-salicylic ether, nitrous ether, sebacylic ether, and succinic acid, each 1 part.

Essence of Pineapple.—Amyl-butyric ether, 10 parts; butyric ether, 5 parts; glycerin, 3 parts; aldehyd and chloroform, each one part.

Essence of Melon.—Sebacylic ether, 10 parts; valerianic ether, 5 parts; glycerin, 3 parts; butyric ether, 4 parts; aldehyd, 2 parts; formic ether, 1 part.

Essence of Orange.—Oil of orange and glycerin, each 10 parts; aldehyd and chloroform, each 2 parts; acetic ether, 5 parts; benzoic ether, formic ether, butyric ether, amyl-acetic ether, methyl-salicylic ether, and tartaric acid, each 1 part.

Essence of Lemon.—Oil of lemon, acetic ether, and tartaric acid, each 10 parts; glycerin, 5 parts; aldehyd, 2 parts; chloroform, nitrous ether, and succinic acid, each 1 part.

The different manufacturers of artificial fruit essences doubtless prepare them by formulas of their own, and this explains the difference in the flavor, which is particularly noticeable on largely diluting them with water. If the essences have been prepared with a dilute alcohol their odor is more prominent, and they are apparently stronger; but on mixing a small quantity with a large quantity of water in given proportions, the true flavoring strength may be better discerned.

A fruit essence, which is much employed in the United States, is *essence of banana;* it consists usually of butyric ether and amyl-acetic ether, equal parts, dissolved in about 5 parts of alcohol.

The red color of strawberry and raspberry essence is produced by aniline red (fuchsin), the bluish tint of which is conveniently neutralized by a little caramel. If caramel alone is used for coloring essences a yellow or brown color is obtained, according to the quantity used.

The *Confectioners' Journal* gives formulas also for the following essences:—

Essence of Blackberry.—Tincture of orris-root (1 to 8), 1 pint; acetic ether, 30 drops; butyric ether, 60 drops.

Essence of Nectarine.—Extract of vanilla, 2 parts; essence of lemon, 2 parts; essence of pineapple, 1 part.

Sulpho-Tartrate of Quinia.—Dr. Prengeber recommends for hypodermic use the following solutions:

1. Quinia sulphate.....2.00 gm. or 30 grs.
   Tartaric acid.....0.60 gtt. or 9 grs.
   Distilled water.....6.00 gtt. or 100 min.
   To be dissolved by gently heating.
2. Quinia sulphate.....2.00 gm. or 30 grs.
   Morphia (alkaloid).....0.006 gtt. or $\frac{1}{10}$ grs.
   Tartaric acid.....0.65 gtt. or 10 grs.
   Cherry-laurel water.....6.00 gtt. or 100 min.

Both of these injections are very rarely followed by abscess.—*Rép. de Pharm.*, 1879, 99.

Cinnabar-Plaster.—Dr. Vidal uses with good success, in the treatment of scrofulous ulcerations and of ecthyma, the following plaster, spread upon silk in the usual manner:

Red oxide of lead.....2.50 gm. or 40 grs.
Cinnabar.....1.50 gm. or 25 grs.
Lead-plaster.....26.00 gm. or 400 grs.

Melt the lead-plaster, add the red-lead and cinnabar, mix well and spread.—*Rép. de Pharm.*, 1879, 99.

Summer Drinks.—

Milk Lemonade.—Loaf sugar, one and a half pounds, dissolved in a quart of boiling water, with half a pint of lemon juice, and one and a half pints of milk; this makes a capital summer beverage. A half-pint of sherry added is a great improvement.

Still Lemonade.—The juice of three lemons, the peel of one, quarter of a pound of lump sugar, and a quart of cold water. Mix, digest for five hours, and strain.

Lemon Whey.—One pint of boiling milk, half a pint of lemon juice, sugar to taste. Mix and strain.

Lemon Shrub.—The juice of twelve lemons, the thin rind of two, one pound of sugar, the whites of two eggs well whisked, one pint of water, half-a pint of rum, and half a pint of brandy. Mix and strain.—*Monthly Magazine of Pharm.*

Acetous Perfumes.—

1. *Concentrated Aromatic Vinegar.*
   Concentrated acetic or glacial acetic acid.....8 ounces.
   Oil of lavender (English).....2 drachms.
   " rosemary.....1 "
   " cloves.....½ drachm.
   Gum camphor.....1 ounce.
2. *Hygienic or Preventative Vinegar.*
   Strong brown vinegar.....2 pints.
   Gum benzoin.....1 ounce.
   Oil of marjoram.....½ drachm.
   Brandy.....1 pint.
   Oil of cloves.....1 drachm.
   " lavender (English).....1 "
3. *Toilet Vinegar (à la Violet).*
   White wine vinegar.....2 pints.
   Extract of cassie.....½ pint.
   " orris.....¼ "
   " rose (triple).....¼ "
4. *Toilet Vinegar (à la Rose).*
   Extract of rose (triple).....½ pint.
   Dried rose leaves.....4 ounces.
   White wine vinegar.....2 pints.
5. *Vinaigre de Cologne.*
   Eau de cologne.....1 pint.
   Glacial acetic acid.....1 ounce.
6. *Cosmetic Vinegar (Piesse and Lubin's).*
   Concentrated vinegar.....1 ounce.
   Gum benzoin.....3 ounces.
   Alcohol, pure.....1 quart.
   Balsam of Peru.....1 ounce.
   Oil of neroli.....1 drachm.
   " nutmegs.....½ "
7. *Vinaigre à la Rose.*
   Glacial acetic acid.....1 ounce.
   Oil of rose.....½ drachm.
8. *White Wine Vinegar.*

Filter best ordinary brown vinegar through animal charcoal till perfectly white.

Ammoniacal Perfumes.—

1. *Essence for Smelling Bottles.*
   Stronger water of ammonia.....1 pint.
   Oil of rosemary.....1 drachm.
   " lavender (English).....1 "
   " bergamot.....½ "
   " cloves.....½ "
2. *Essence for Smelling Bottles.*
   Stronger water of ammonia.....1 pint.
   Oil of bergamot.....2 drachms.
   " lemon.....3 "
3. *Allchin's Volatile Essence.*
   Stronger water of ammonia.....1 pint.
   Oil of bergamot.....2 drachms.
   " cloves.....1 drachm.
   Essence of musk.....4 drachms.
   Oil of rose.....10 drops.
   " cinnamon.....5 "
4. *Eau de Luce.*
   Stronger water of ammonia.....2 ounces.
   Tincture of benzoin or balsam of Peru 1 ounce.
   Oil of lavender (English).....10 drops.
   " amber.....5 "

—*The Monthly Mag. of Pharmacy*

Mixture for Treatment of Cystitis.—(WM. GROSS.)

℞ Copaibæ..... 4 gm.
Acidi benzoici..... 2 "
Acaciæ pulv..... 8 "
Sacchari pulv..... 8 "
Aquæ camphoræ.....200 "
Olei gaultheriæ..... 29 gtt.

S. A tablespoonful to be taken every five hours, when the inflammatory symptoms have subsided. The bladder is at the same time to be washed out with tepid water, to which may be added 1 grain of potassium permanganate for each fl. oz. of water, if the urine has a fetid smell.

Lac Bismuthi.—

℞ Bismuthi subcarb..... ℥ iv.
Mucilag. acaciæ,
Syrupi Aurant. flor..... āā fl. ℥ i.
Aquæ.....q. s. ad fl. ℥ iv. Mix

—*Pharm. J. and Trans.*

ITEMS.

The Massachusetts College of Pharmacy.—Having passed through the ordeal of fire and removal, the college is again located, and with greater facilities for instruction than it has ever possessed.

This school was instituted in 1823, and for many years did not make much progress in the education of apothecaries, but succeeded in issuing in 1828 a price book, and the establishing in 1840 of a library and cabinet of specimens.

In 1851, a constitution and by-laws were adopted, the college becoming incorporated, and pharmaceutical meetings were held on the first Monday in each month, devoted especially to scientific purposes, and the college was throughly reorganized. In the fall of 1853, a course of lectures was delivered by Prof. J. P. Cooke, of Harvard University, on pharmaceutical chemistry, and, as reported by a committee of the college "a course on practical pharmacy would have been tried if a suitable person (of practical and theoretical attainments) could have been found willing to undertake it."

The rooms of the college had thus far been located in Phillips Place, opposite Kings Chapel Cemetery, where they remained until 1856, at which time rooms were secured in Temple Place, with several medical societies, and in which several courses of lectures were given before the college by Professors Charles Jackson, J. P. Cooke, and Edward H. Clarke, M.D., of Harvard University; also the well-known New England chemist, Charles T. Carney.

Massachusetts College of Pharmacy.

Anti-blennorrhagic Syrup.—(DR. LOBER.)

℞ Olei santali..... 9 gm.
" menthæ pip..... 24 gtt.
Syrupi.....120 gm.

Mix. One-half to be taken in one day, in three doses. When the discharge begins to diminish, the proportion of essential oils is diminished by one-third.

Best Blacking for Boots and Shoes.—Ivory black, 1½ oz.; treacle, 1½ oz.; sperm oil, 3 drachms; strong oil of vitriol, 3 drachms; common vinegar, ½ pint. Mix the ivory black, treacle, and vinegar, then the sperm oil and oil of vitriol separately, and add them to the other mixtures. This will be found an excellent and useful receipt.—*Leather Trades' Circular.*

In the spring of 1867, a class of thirty-five young men from Boston and vicinity, attended lectures delivered by Messrs. G. F. H. Markoe, E. L. Stoddard, and C. M. Tracy, and the course was continued in 1868–69, the lecturers of the previous session having been appointed professors and a class of nine students graduated with the degree "Graduate in Pharmacy."

The lectures were still continued in 1869, the rooms in Temple Place being exchanged for more desirable ones in a portion of the laboratory of Prof. James F. Babcock, the successor of Prof. Stoddard, and the experiment of a regular course of instruction proved a success by the increased attendance.

In 1874, the system of delivering the same lecture to the junior and senior class was abandoned and separate lectures for the junior and senior classes were established, thus giving more time for complete explanation before either class.

The act of incorporation, which would expire in 1877, was by act of Legislature made continuous in 1876, and for lack of sufficient accommodation the college was removed from Boylston St., to Hawkins St., in the Mayhew School Building, when in January, 1877, by fire it was once more made homeless and forced to leave the conveniently fitted rooms and seek temporary accommodation with the Institute of Technology

In 1878, permission was granted by the city of Boston for use of the "Old Franklin School Building," on Washington St., near Dover, one of the best locations for a school of this kind, being accessible by horse cars from nearly every part of the city.

The rooms are ample for the utmost wants of the college, and comprise a large square lecture room which will easily seat a class of 100 students, and is conveniently arranged, being fitted with complete appliances for demonstration and illustration, including a large chemical table and sink, fume closets, chemical apparatus, and supply room, blackboards, cabinets, etc.

Adjoining the lecture room are the libraries of the college and alumni association, the latter association being an offshoot of the college who show regard for their *Alma Mater* by engraving on their seal a *graduate*, a leaf and book, and the motto, "*Forsan et hæc olim meminisse juvabit.*"*

The laboratory occupies a room of the same dimensions as the lecture room, and being situated in the third story, is well lighted. It is furnished with all the modern appliances for practical work in chemistry interesting to the pharmaceutist, and has accommodations for 250 students, 64 working at a time.

It is in charge of an instructor, who, with two assistants, devote their entire time to the laboratory students, now numbering one hundred (100), of whom forty (40) are engaged in special work.

Although this college was instituted second in the United States, many years elapsed before a system of instruction was established, for the lack of earnest workers.

At the present, from the desirable location and continued interest, as bright a future is anticipated for this college of pharmacy as any in the country.

The great need of the college now is a permanent fund. Its only capital now is a gift of $2,000, which is kept as a building fund. Its expenses are paid by the membership and tuition fees, which, of course, are insufficient to enable it to accomplish the work that it might do with larger resources. The money for equipping the laboratory was obtained by a special subscription among the members of the trade in New England. The school has proved the value of its work, and it occupies so important a field that it ought not to be crippled by want of funds. Its present situation offers an excellent opportunity for some wealthy and benevolent individual to bestow a gift where it will yield a rich harvest of good.

St. Louis College of Pharmacy.—At the commencement exercises, held Tuesday evening, Mar. 18th, '79, at Apollo Hall, the degree of Ph.G. was conferred upon the following gentlemen: J. F. Baehr, J. H. Evans, Otto Fehringer, H. F. Hassebrock, E. Knoebel, G. J. Klein, Wm. F. Krembs, F. J. Meyer, H. T. Moeller, E. H. Mueller, John Kamming, J. A. W. Sommer, C. C. Tate, E. M. Till, J. P. Schoenthaler, E. H. Wolff.

The valedictory address on behalf of the Faculty was delivered by Prof. J. M. Good, Ph.G.; on behalf of the class by Mr. E. M. Till, Ph.G.

The exercises were followed by a social reunion.

The annual meeting of the College took place on Monday, April 28th, at the lecture rooms. The different committees presented their reports, and the institution was found to be in a flourishing condition. The election of officers for the ensuing year resulted as follows: *President*, Geo. Ude; *Vice-President*, Chas. Gietner; *Recording Secretary*, E. P. Walsh; *Corresponding Secretary*, G. H. Chas. Klie; *Treasurer*, Ferd. W. Sennewald; *Trustees*, Chas. Habicht, Chas. Bang, W. H. Crawford, Henry Braun, Gustav Koch; *Professors: Chemistry*, Dr. C. O. Curtman; *Pharmacy*, J. M. Good, Ph.G.; *Materia Medica*, Dr. O. A. Wall; *Botany*, Ph. Hambach, M.D.

New Jersey Pharmaceutical Association.—The ninth annual meeting of this association was held at Princeton, on the 21st and 22d of May, in the rooms of the Princeton College, which, through the courtesy of its faculty, were offered for this purpose.

About seventy members were in attendance, and the meeting was, throughout, a very pleasant one.

The State Board of Pharmacy reported 750 registered pharmacists, now doing business in the State. The board hold regular quarterly meetings for examination in Trenton, Newark, Patterson, and Camden; they require candidates appearing before them to have an average of 33 out of a possible 50, to pass. Graduates of colleges of pharmacy are only required to register; but graduates of medical colleges are required to undergo examination before being allowed to practice pharmacy. A second examination is allowed, within six months, to candidates who fail upon the first. The Board have been compelled to prosecute several cases of violation of the law.

Stores open for the dispensing of medicines are required to have, at all times, a registered pharmacist in charge. The working of the law, now two years in operation, is proving beneficial to the trade.

Randall Rickey, the retiring president, delivered an interesting address, in which he made the following quotation from a work issued in the times of Queen Elizabeth, which aptly applies to the apothecary of the present day.

"The apothecary should not for fear of power or loss of money do anything to compromise the honor of a physician, nor prepare poisonous medicines or cups; nor make syrup of honey which should be made of sugar.

"His shop should be cleanly, his mortars and stills clean and sweet; must neither increase nor diminish the physician's directions; neither buy nor sell rotten drugs, using only true measure and weight, *meddling only in his own vocation.*

Among the papers read was one by Mr. Holzhauer, of Newark, reporting an examination of twenty samples of cream tartar purchased of both the drug and grocery trade. The examination revealed extensive adulteration in samples sold by druggists as "strictly pure," and in tracing some samples to their original source, the fact was revealed that parties are travelling through the country buying up unsalable patent medicines, and paying for them in adulterated cream of tartar, and it is well for the trade to be on the lookout for them.

Mr. F. B. Kilmer, of Morristown, gave a detailed account of the workings of the "cold process" for syrups, giving results as regard specific gravity and keeping qualities of samples prepared both by the cold and U. S. P. process, which gave many points in favor of the former process, especially in the preparation of small quantities.

The association has an employment bureau just started, but in full operation, under charge of C. W. Vandervort, of Newark.

* "It may be a source of joy to think back to this in the future." Virg. Æn. 1,203.—Ed. N. R.

The following officers were elected for the ensuing year: *President*, A. S. White, Mt. Holly; *Vice-Presidents*, Wm. M. Townly, Newark, James C. Decoa, Trenton; *Treasurer*, Wm. Rust, New Brunswick; *Recording Secretary*, Albert P. Brown, Camden; *Corresponding Secretary*, C. W. Vandervort, Newark.

Standing Committee, Wm. M. Townly, Newark; H. P. Thom, Medford; Bunting Hawkins, Bordentown; A. G. Smith, Belvidere.

Delegates to the American Pharmaceutical Association: Randall Rickey, E. P. Nichols, Wm. Townley, Wm. Rust, and Henry P. Thom.

Committee on Progress of Pharmacy: C. B. Smith, Albert P. Brown, and Wm. H. Rust.

The next session will be held in Jersey City.

Texas State Pharmaceutical Society.—A State association of pharmacists was organized at Dallas, Texas, in the month of May, at which a constitution and by-laws were adopted, and the following officers were elected: *President*, L. M. Connor, of Dallas; *Vice-Presidents*, W. H. Murdock, of Sherman, A. Nette, Jr., of San Antonio, and C. B. Evans, of Marshall; *Permanent Secretary*, R. Voelckner, of Galveston; *Corresponding Secretary*, E. M. Wells, of Fort Worth; *Treasurer*, Zac. Colliver, of Dallas.

The following Standing Committees were also elected: *Executive*, R. F. Eisenlohr, of Dallas, Mr. Rivers, of Dallas, and L. M. Connor, of Dallas; *On Notes and Queries*, E. M. Willis, of Fort Worth, A. Nette, Jr., of San Antonio, and C. B. Evans, of Marshall; *On Adulterations and Sophistications*, S. C. Weathersby, of Dallas, C. W. Powell, of Fort Worth, and E. M. Willis, of Fort Worth.

Mr. Nette called the attention of the meeting to the "bell punch" law, recently passed by the Legislature, to take effect October 1st, and pointed out certain clauses that would materially affect the retail drug business; and suggested that steps be taken to induce the Legislature, at its next meeting, to make such modifications in the law as would enable druggists to sell small quantities of alcohol and alcoholic liquors for medical uses without subjecting themselves to the requirements of this law.

He moved that a committee on legislation be appointed, and instructed to attend to the matter, consisting of Aug. Nette, Jr., of San Antonio, W. C. Connor, of Dallas, C. B. Evans, of Marshall, Dr. Powell, of Fort Worth, Col. Betterton, of Dallas.

A motion was made by Mr. Evans, of Marshall, to instruct the committee on legislation to induce the Legislature to pass a law regulating the sale of poisons by druggists. A very lively discussion ensued, some maintaining that if such a law was passed the Legislature would have to designate what are poisonous, and as nearly every drug is more or less poisonous, the motion was lost.

A vote of thanks was tendered to Rev. Mr. Curry for opening the meeting with prayer, and Messrs. Whitla and Pepper for the free use of their parlor by the Association.

No more business being before the Association, a motion to adjourn *sine die* prevailed.

The next meeting will be held at Galveston, on the second Thursday in May, 1880.

New York State Pharmaceutical Association.—This Association was organized at Utica, on the 21st and 22d *ultimo*, as announced in our last issue; the most notable feature of the proceedings being the adoption of a constitution and by-laws. The initial proceedings took place on the evening of the 20th, when a considerable number of gentlemen agreed upon a draft for these documents, and appointed a committee who were able to nearly complete the work in time for the general meeting on the 21st, and thus much valuable time was saved.

Prof. Bedford was elected chairman, and Mr. Clay W. Holmes, of Elmira, secretary of the convention; and after listening to remarks by Prof. Bedford, and addresses of welcome from Judge Wm. J. Bacon and Dr. M. M. Bagg, and a response in behalf of the Convention by Mr. A. B. Huested, of Albany, the Convention proceeded to the consideration of the draft of a constitution and by-laws, above referred to. The entire afternoon was consumed by this matter, and the result proved very satisfactory.

In the evening an election of officers was held, and the following were chosen:

President, Prof. P. W. Bedford, of New York; *Vice-Presidents*, C. M. Lyman, of Buffalo, B. F. Ray, of Utica, and A. J. Julves, of Binghamton; *Secretary*, C. H. Gaus, of Albany; *Assistant Secretary*, Clay W. Holmes, of Elmira; *Treasurer*, W. Blaikie, of Utica; *Executive Committee*, L. E. Nicot, of Brooklyn; A. B. Huested, of Albany, and E. H. Davis, of Rochester.

The following delegates were also appointed to attend the next meeting of the American Pharmaceutical Association: F. F. Knapp, of New York, W. H. Rogers, of Middletown, C. M. Lyman, of Buffalo, W. Blaikie, of Utica, and H. B. Napier, of Owego.

On the following morning, the details of organization were further completed; a lecture was delivered by President Bedford on the Metric System, followed by remarks by several members, and a resolution was adopted to the effect that it be entered upon the minutes that the Association, as a body, favors the use of the metric system.

At the afternoon meeting, a paper by Mr. E. G. Bissell, of Watertown, on Syrup of Ipecac, was read and discussed, and was referred to the Executive Committee for publication.

The following committees were appointed: *On Trade Interests:* A. J. Julves, Jr., of Binghamton, J. P. Diehl, of Buffalo, and J. G. Bissel, of Rome. *On Pharmacy and Queries:* S. Sautter, of Albany, W. P. DeForrest, of Brooklyn, and F. Hamilton, of Syracuse.

A resolution was adopted, expressive of the approval of the Association of the bill which had passed both branches of the Legislature, and then awaited the signature of the Governor, to regulate the future practice of pharmacy in Brooklyn.

Also a resolution offered by Mr. Rieffenstahl, of Buffalo, as follows:

"*Resolved*, That a committee of five be appointed by the chair to draft an act to be submitted to the Legislature of this State for the regulation of the business of druggists and dispensing pharmacists in this State, to secure a better protection of the life and health of the people. This committee shall report at our next annual meeting."

The chair subsequently appointed J. S. Rieffenstahl, of Buffalo, B. F. Ray, of Utica, H. B. Napier, of Owego, G. M. Baker, of Greenport, and W. L. Brown, of Syracuse, as the committee.

In the course of the proceedings, messages of congratulation were received from the New Jersey and Kentucky Pharmaceutical Associations, and were appropriately acknowledged.

The Committee on Queries requested that members having queries to which they desire answers will send them to Louis Sauter, of Albany.

Syracuse was chosen as the next place of meeting (third Wednesday in May next), and the meeting was adjourned, about one hundred persons, in all, having been present.

In an adjoining room an exhibit was made of articles of interest, viz., by Prof. Bedford, a variety of drugs, both crude and manufactured; specimens of metric weights and measures; Becker & Son's scales and weights; compressed-pill making machine, and other pharmaceutical apparatus. Mr. Heritage exhibited his pharmaceutical still (see p. 334 of our last volume). Becker, of Philadelphia, and Page, Kidder & Fletcher, of New York, exhibited carbolic acid, and in a window of the Butterfield House, Messrs. Schieffelin & Co. had on exhibition a full line of their soluble-coated pills, which attracted the attention of many persons besides pharmacists.

The only entertainment of a social character which took place was a visit made by most of the members, on Thursday afternoon, to the State Asylum for Insane, on the invitation of Dr. John P. Gray, the Superintendent, and an excursion to Trenton Falls on Friday, which was organized by a few of the members present.

Trade Association of Philadelphia Druggists.—The leading druggists in and about Philadelphia have organized an association for mutual protection and assistance in business relations and have held two meetings for organization at which much important business has been performed. At the second meeting, held on the 5th of June in the hall of the College of Pharmacy, the following officers were elected to serve until April, 1880: *President*, Caleb H. Needles; *Vice-Presidents*, Wm. G. Kerr, and Wm. E. Krewsen; *Secretary*, T. S. Wiegand; *Treasurer*, C. W. Hancock. A third meeting was to have been held on the 12th of this month for the election of an *Executive Committee* comprising one from each Legislative District.

College of Pharmacy of the City of New York.—On Thursday evening, May 15th, the College celebrated its Semi centennial Anniversary. The proper date on which this celebration should have been held was the 18th of March, but owing to the nearly simultaneous occurrence of the Annual Meeting for the election of officers and of the Commencement, it was postponed until the middle of May. The lower lecture room was prepared for an exhibition of articles of interest, illustrating the progress of pharmacy. Many members and friends of the College had sent objects of interest. The main lecture-room was tastefully decorated and the names of the presidents and professors of the College since its foundation were exhibited on the walls. The meeting was called to order by the President, Mr. Ewen McIntyre, at whose suggestion the oldest member of the College, the venerable Mr. Henry T. Kiersted, was invited to preside, with Mr. G. D. Coggeshall as secretary. The principal address of the evening was delivered by Prof. P. W. Bedford, who gave a historical sketch of the origin and progress of the College, as well as of matters of historical interest relating to the profession generally. Prof. John M. Maisch, of Philadelphia, who was present, being called upon, made a short and appropriate address.

Kentucky Pharmaceutical Association.—The annual meeting of this Association was held at Louisville on the 22d and 23d of May, with a good attendance of members. The President, W. H. Averil, of Frankfort, delivered an address in which he spoke at some length on the objects and importance of the Association to its members, as well as to the general public, and recommended that some action be taken to secure a more general pharmacy law than the one existing at present in that State.

Between fifteen and twenty new members were added to the Association.

The reports of the Secretary and Treasurer showed a prosperous state of the Association, and other reports were presented from the Committee on Legislation; Special Committee on Revision of By-laws; Delegates to the recent meeting of the National Association, and the Executive Committee.

Attention being directed to the fact that the New York pharmacists were then in session at Utica, N. Y., for the purposes of organizing a State Pharmaceutical Association, the President was directed to send by telegraph to the Convention the hearty wishes of the Kentucky Association for success in their undertaking.

An invitation was received from the Pharmacists of Louisville to an entertainment held on the evening of Thursday at Rufer's Hotel.

At the *Second Session* held on *Thursday* (23d), invitations were received and accepted to visit the Falls City Steam Bakery of Messrs. Hall and Haywood, the Bremaker-Moore Paper Co., and the Fish Hatching Establishment.

The following officers were elected for the ensuing year: *President*, Vincent Davis, of Louisville; *Vice-Presidents*, M. H. Well, of Simpsonville, E. C. Reiss, of Covington and J. Colgan, of Louisville; *Recording Secretary*, W. G. White, of Richmond; *Corresponding Secretary*, Prof. C. Lewis Diehl, of Louisville; *Treasurer*, Peter Nodler, of Covington.

The next meeting will be held in Owensboro, Ky., in May next.

To judge by the report received, no scientific business of general importance was transacted; the gathering being mainly of a social and ethical character.

Digest of Laws Relating to Commercial Travellers' Licenses.—The following is a digest of the laws of States and cities in the Union relative to licenses of commercial travellers. It has been collated and prepared for the *Northwestern Commercial Traveller*, and is the first attempt that has been made to publish in full, for the benefit of commercial men, information that is of great importance to them, and has been much sought after. We have, as yet, been unable to procure the laws of Delaware, Rhode Island, Tennessee, Texas, and Colorado. We hope to give them hereafter.

STATES.—The following named States have no statute requiring non-resident commercial travellers to hold special licenses:

Alabama, California, Connecticut, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Maine, Minnesota, Mississippi, Missouri, New Jersey, New York, New Hampshire, Ohio, Oregon, South Carolina, Vermont, West Virginia.

In California, Connecticut, Florida, Georgia, Minnesota, and Pennsylvania, each incorporated city may require them by passing ordinances to that effect.

INDIANA.—The statutes of Indiana provide that "travelling merchants . . . who are not residents of this State" shall pay from three to fifty dollars, according to the amount of capital used. The license is required for vending foreign merchandise only. Tea and coffee excepted. (Davis' Revised Statutes of Indiana, vol. i., page 617, Act of 1852, sec. 1.)

LOUISIANA.—The statutes of Louisiana provide "that there shall be levied and collected an annual amount as a license or tax" "from every non-resident sample merchant, agent, salesman, or employee of any foreign mercantile house or manufactory, who sells or contracts for the sale of merchandise, ardent spirits, wines, liquors, or any mixture thereof, by samples, list, description, or otherwise, one hundred dollars for every sale thus made without said license, recoverable as other fines, one-half of which shall go to the informer." License obtained from any tax collector. (Act No. 8, sec. 3, p. 25, Stat. of Louisiana.)

MICHIGAN.—The statutes of Michigan provide that "no person shall be authorized to travel from place to place within this State for the purpose of carrying to sell . . . or to take orders for the purchase of goods, wares, or merchandise, by exhibiting samples, lists, catalogues, or otherwise," till he "shall pay into the State treasury . . . the sum of fifty dollars." Licenses are renewable annually, and they may be granted for "any term less than a year upon payment of a ratable proportion of the duties hereinbefore prescribed." (Revised Statutes of Michigan, chap. 22, secs. 15 and 17.)

NEBRASKA.—There is a statute in the State of Nebraska, requiring non-resident commercial travellers to take out special licenses, but it is claimed to be unconstitutional and void. "Its construction and effect is now a matter of litigation." (H. H. Wheeler, Secretary of State.)

NEVADA.—The laws of Nevada require the payment of from ten to twenty dollars per month in each county for license to sell by samples, lists, catalogues, etc.

NORTH CAROLINA.—The statutes of North Carolina provide that "every person acting as a drummer in his own behalf, or as agent for any other person, who shall sell, or attempt to sell, goods, wares, or merchandise, not of his own manufacture, or any spirituous, vinous, or malt liquors, with or without samples, except agricultural implements, etc., shall, before soliciting orders or making any such sale, obtain a license to sell one year, from the public treasurer, for an annual tax of fifty dollars, but shall not be liable" (Revenue Act of North Carolina, sec 24. Approved March 10th, 1877.)

PENNSYLVANIA.—There is no statute in Pennsylvania concerning commercial travellers, except one prohibiting the sale of liquors.

VIRGINIA.—The statutes of Virginia provide that "the specific license tax for the privilege of selling by sample, card, description, or other representation shall be one hundred dollars." Said license is not transferable. For each additional agent or salesman employed to sell as aforesaid, there shall be an additional tax of fifty dollars. Non resident commercial travellers are required to hold the regular "merchant license," in addition to the above special license, ranging from five dollars upwards, according to the amount of capital employed. (Revenue Laws of Virginia, secs. 28 and 35.)

WISCONSIN.—The statutes of the State of Wisconsin provide that "each and every person who shall travel from place to place on foot, by horse and wagon, or by team, within this State, for the purpose of selling or offering for sale, at retail or to consumers, any goods, . . . whether by sample or otherwise, and whether said goods . . . are delivered at the time of sale or to be delivered at some future day, is hereby required to take out a license, in accordance with the existing laws of this State relating to hawkers and peddlers. (Chapter 269 of the Wisconsin Laws of 1878.) "The sum required of commercial travellers is fifteen dollars." H. Kleinpell, Treasury Agent.) In addition to that, there may be village and town licenses, when they have been authorized by charters of the towns, etc.

CITIES.—Austin and Galveston, Texas; Denver, Col.; Little Rock, Ark.; and St. Louis, Mo., have no city ordinance requiring non-resident commercial travellers to take out special licenses.

MEMPHIS.—There is an ordinance in the city of Memphis imposing "special license tax on commercial travellers, but this has been decided against by the courts, and they are now licensed under the general head of merchants, at the rate of twenty-five dollars per annum." (C. Belcher, City Registrar of Memphis.)

SAVANNAH.—Savannah, Ga., has an ordinance requiring "every drummer, runner, or other person soliciting trade, or orders, or business for another or for himself, whether resident in the city or elsewhere, and having no fixed place of business in this city . . . and every transient person selling, or offering to sell by sample, shall pay the same tax required of resident and stationary dealers in the same article, without reference to the time of the year when the business is commenced; and no such itinerant dealer shall be allowed to sell his wares under the license of any auctioneer, or under the name of any factor or commission merchant who has paid his tax as such, until he himself shall have paid all taxes required by this ordinance." (Section 6, page 11, Revenue Ordinances of Savannah, Ga., for 1878.)

SAN FRANCISCO.—There is an ordinance in the city of San Francisco requiring commercial travellers to take out special licenses, "but it has been declared unconstitutional by the courts." (John A. Russell, City Clerk of San Francisco, Cal.

WASHINGTON, D. C., has an ordinance declaring that commercial agents shall pay *two hundred* dollars annually. "Every person whose business it is, as agent, to offer for sale goods, wares, or merchandise, by sample, catalogue, or otherwise, shall be regarded as a commercial agent." This clause takes effect April 1st, and if paid thereafter an amount is payable proportional to the unexpired portion of the year. (Robert P. Dodge, Treasurer of D. C.).—*Notions and Fancy Goods Record and Silk Reporter.*

The Italian Pharmacopœia.—On April 1st, the commission appointed to construct the first Italian Pharmacopœia assembled at Rome, under the presidency of Prof. Ratté.

Composition for Applying Colors.—Patent No. 216,207, granted to A. E. Méry, of Paris, by the U. S. Pat. Off., for a composition for applying colors, specifies the following ingredients: Glue, 25 parts (by weight); glycerin, 534 parts; water, 208 parts; white wax, 208 parts; strong solution of ammonia, 12½ parts; and resin, 12½ parts, dissolved in ether. Any coloring matter may be mixed with this paste, thereby forming a paint.

Cure of the Opium Habit.—DR. OSGOOD, who is the medical officer of the hospital at Foochow, under the care of the Amer. Board of Com. for Foreign Mission, gives the following as the method which for some time has been successfully pursued by him in the cure of the opium habit. 1. The total and absolute discontinuance of the use of opium from the beginning of treatment. 2. A trustworthy attendant to be with the patient day and night for the first three days. 3. Chloral hydrate for the first three nights, if required. 4. Good food, milk, raw eggs, brandy (in some cases), and chicken-broth in small quantities and frequently. 5. In case of diarrhœa, give two-drachm doses of a mixture of equal parts of tincture of catechu and tincture of ginger.

Fire-proof Paper.—A new kind of paper has been invented, which is said to be fire-proof in an ordinary fire. The paper is stated to be composed of one part of vegetable fibre, two parts asbestos, one-tenth borax, and one-fifth alum. It is made into writing- and wrapping paper. An ink, likewise indelible by fire, for use in writing on this paper, is said to be made by boiling in water a mixture of 90 grams of powdered graphite, 0.75 gram of copal, 8 or 10 grams of ferrous sulphate, 30 or 32 grams of tincture of nutgalls and indigo-carmine. The ink certainly seems to be a curious mixture.—*Pharm. Centralh.* and *Pharm. J.*

PHARMACEUTICAL CALENDAR.—JULY.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., not quoted in this Calendar will oblige us by forwarding a schedule of their meetings and a list of officers.

Day of Week.	Day of Month.	Society Meetings.
Tuesday	July 1.	Phila. Coll. Ph.—Trustees' Meet.
		Pittsburgh Coll. Phar.—Trustees' Meeting.
Thursday	" 3.	Louisville Coll. Phar.—Monthly Meeting.
		N. Y. Coll. Ph.—Trustees' Meet.
Tuesday	" 8.	Chicago Coll. Pharm.—Trustees' Meeting.
		St. Louis Coll. Pharm.—Pharm. Meeting.
Wednesday	" 9.	Cincinnati Coll. Phar.—Trustees' Meeting.
		St. Louis Coll. Pharm.—Pharm. Meeting.
Thursday	" 10.	Louisville Coll. Phar.—Directors' Meeting.
		N. Y. Germ. Apothec. Society.—General Meet., 160 Third Ave.
		Newark Pharm. Asso.—Room 3, Library Building.
		Maryland Coll. Ph.—Stated Meet.
		Phila. Coll. Phar.—Alumni Asso.
Monday	" 14.	Rhode Isl. Pharm. Assoc.—Stated Meeting. 27 N. Main Street, Providence, R. I.
Tuesday	" 15.	Pittsburgh Coll. Pharm.—Pharm. Meeting.
		St. Louis Coll. Pharm.—Trustees' Meeting.
		St. Louis Coll. Pharm.—Alumni Assoc.
		Kings County Pharm. Asso.—120 Myrtle Ave., Brooklyn, N. Y.
Thursday	" 17.	New Jersey Board of Pharmacy meets at Camden.
Tuesday	" 22.	Pittsburgh Coll. Pharm.—Pharm. Meeting.

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PROFESSOR JOHN M. MAISCH, OF PHILADELPHIA